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ABSTRACT

Presented in five sections, the manual furnishes cabin leaders (high school students) with background information concerning philosophy, teaching, objectives, daily schedule, and cabin leader responsibilities in the Orange County Outdoor School program. The welcome section contains the history of the Outdoor School, staff responsibilities, organizational chart, weekly schedule, geography of the area with maps, and checklist for new staff members. The section on getting started outlines in detail staff responsibilities; creating good relations with staff and teachers; staff business (school address, phone number, salary and benefits, and dress code); and policies of the Outdoor School. The third section addresses characteristics of a good cabin leader, understanding sixth graders, leadership skills, and cabin leader evaluation. The section on cabin life provides a schedule for the first day, preparation for activities, health care information, cabin inspection sheet form, dining hall procedures and duties, highway rules, and a schedule for the last day. The major part of the manual presents teaching in the outdoors offering topics for discussion and suggesting activities on environmental education; social expectations (group behavior, cabin living), star study; night hike; and use of the four nature trails (Chaparral, Riparian, Geology, and Forest). (ERB)

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W E L C O M E

This manual is designed to furnish cabin leaders with some background information concerning philosophy, teaching, objectives, daily schedule, and cabin leader responsibilities in the Outdoor School program. The importance of your role as a cabin leader cannot be over emphasized. Impressionable students will return home even walking and talking in imitation of you. The periods of your responsibility may supply more learning opportunities than any other period of the day, both for you and the students in your charge.

WELCOME. . .

to an exciting experience teaching and learning with your students at the Orange County Outdoor School!

This guide will provide you with helpful information to prepare you and your students to gain the maximum benefit from the Outdoor School Program.

PHILOSOPHY

WE BELIEVE THAT:

1. Each student attending the Outdoor School will grow in the understanding of nature, as well as the social graces, and depart at the end of the week with a genuine concern for the natural environment.

2. The Outdoor School curriculum compliments and enriches the subject areas of Science, Social Science, Health, Art, Environmental Education, English, Language Arts, and Physical Education taught at the regular school.

3. Students will increase their appreciation for the value of our wilderness areas through learning about the interdependency of living things and their environment, the dynamics of energy, conservation of resources, cycles and systems of change in nature and multiple use of the forest.

4. The Outdoor School Program provides first hand experiences with the interrelationships and adaptations found in the natural environment and ways to demonstrate respect for nature through positive action.

5. Socially, each student will make new friends, learn proper table manners, be responsible for his/her behavior, belongings and equipment, participate in creative and recreational activities and enjoy living in small and large group settings.

6. Students will increase confidence in their own abilities and will demonstrate cooperation and understanding of cultural differences derived from group living.

7. The Outdoor School Program will develop informed citizens who will influence future legislation to conserve our natural resources and preserve the quality of the environment.

WHY THE OUTDOOR SCHOOL?

The Outdoor School, formally referred to as the Resident Outdoor Environmental Education Program, has become over the past 50 years an important part of the environmental scene for elementary school children.

The W.K. Kellogg Foundation in the early 1930's became the moving force in the establishment of the outdoor school concept in Michigan, "to promote a statewide camping effort." The resulting student benefits of this statewide program spread to California in 1946 when the San Diego City-County camping program began and became the first and now the largest outdoor school program in the state. Today, over 120,000 fifth and sixth grade California students annually participate in some type of residential outdoor environmental education experience.

There are several ingredients that characterize all outdoor school programs regardless of geography or ecosystem. Emphasis is typically placed on involving each child in:

1. a democratic living experience
2. a "senses on" approach to learning
3. the natural sciences
4. conservation education and wise use of natural resources
5. life-long recreational skills

The Orange County Outdoor School began in the fall of 1974 and served some 1,440 students from 6 school districts and 27 schools. One of the very unique features of the Orange County Outdoor School program is its emphasis on "school," and not "camp," as in summer camp. Each visiting classroom teacher prepares his or her students prior to their week of participation. Visiting teachers actively participate, generally with the support of a cabin leader, and provide major instructional leadership on one of the activity trails. Equally important, the teacher follows up the Outdoor School week experiences with application to reading, language arts, science, mathematics and other related basic skills.

Another unique characteristic of the Orange County Outdoor School program is its financial support. Approximately 80% of the cost of sending a child to the Outdoor School is contributed by the parent or raised by the student through various fund raising activities. In most cases, the parents also pay for bus transportation.

The dynamism and growing success of the Orange County Outdoor School program has been due to the excellent leadership and educational program provided by the Outdoor School staff. As a cabin leader you are now an important and integral part of that staff. You will undoubtedly have the single greatest influence on the success of the program and the happiness of each participating child. Children will look to you as their parent, big brother or sister, or teacher for that week. Your influence as a model and leader is incalculable. You have been carefully selected for this important role; but, we realize this will be a learning experience for you as well. Your principal, acting principal, naturalist, and unit leaders will have a wealth of experience to share with you. We urge you to be alert, be aware and be concerned, and most importantly, if in doubt, seek help.

We wish you well and trust your employment experience with the Orange County Outdoor School will be enjoyable and mutually beneficial.

Nathaniel Lamm, Director
Instructional Programs

Dan Baker, Principal
Orange County Outdoor School

STAFF RESPONSIBILITIES

The Orange County Superintendent of Schools establishes policies and administers the Outdoor School Program under provision of the Education Code, Chapter 4, Article 5, 8760 - 8773.

The Assistant Superintendent of Instructional Services is responsible for the instructional programs and curriculum provided by the Orange County Department of Education to the schools of Orange County.

The Director of Instructional Programs is responsible for the over-all management of the Outdoor School Program for the Orange County Department of Education.

Outdoor School Specialist under the direction of the Chief Administrator provides inservice programs, orientation assemblies, and instructional materials to assist teachers, parents and students to prepare for the Outdoor School experience.

Outdoor School Principal under the direction of the Chief Administrator administers the Outdoor School Program and supervises the staff at all sites.

Acting Principals under the direction of the Outdoor School Principal teach and supervise students in various natural science activities; provide administrative, instructional and recreational leadership, plan, organize, direct and evaluate all programs for their site.

Naturalist under the direction of the Principal and the Acting Principals develops and leads interpretive activities related to the various ecosystems.

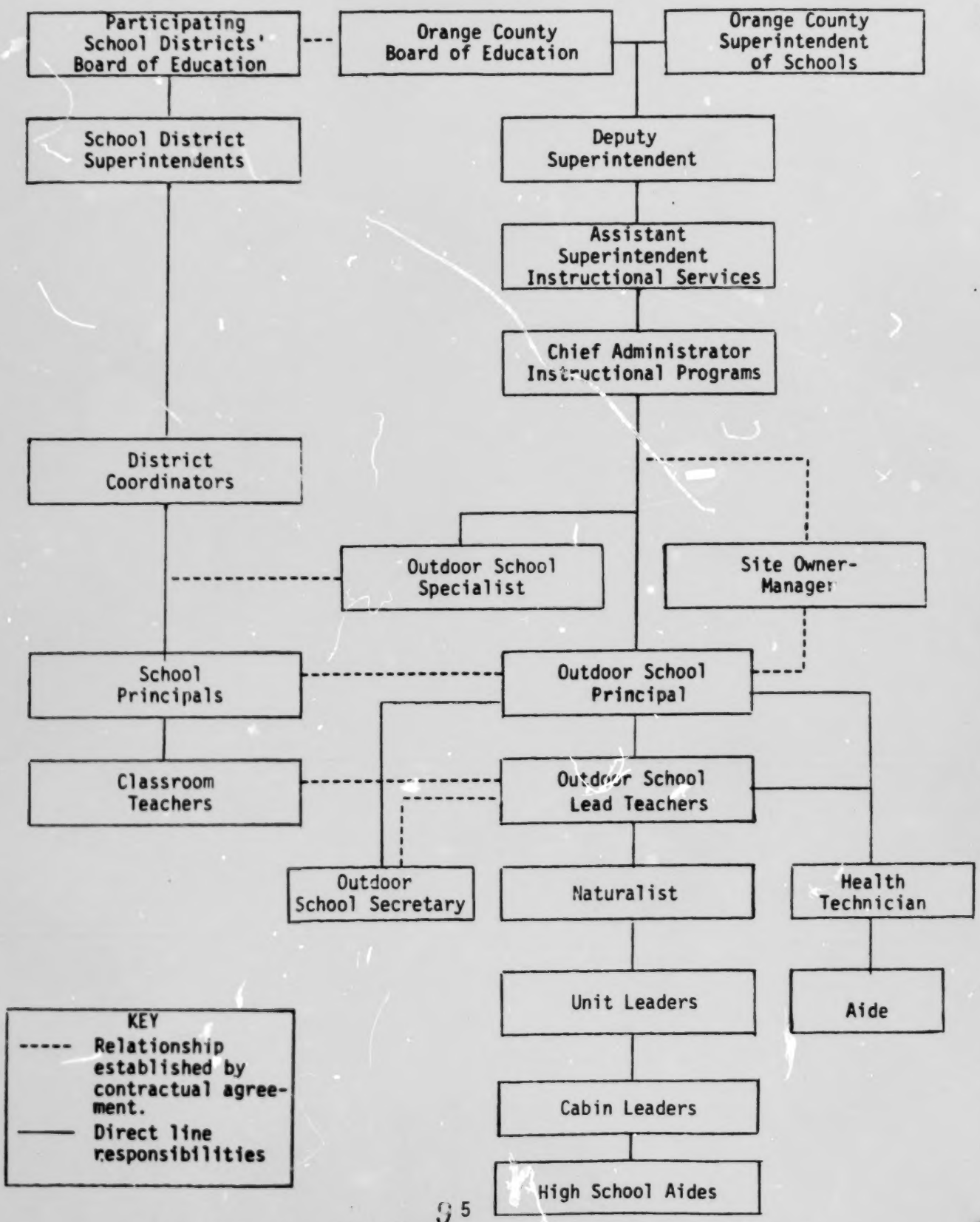
Health Technician under the direction of the Principal provides for the health and medical needs of all participants, teachers, and staff.

Unit Leaders under the direction of the Principal or Acting Principal supervise cabin leaders and students in various instructional, recreational, and free-choice activities. Cooperate with and assist classroom teachers with the supervision of students in the previously mentioned activities.

Cabin Leaders under the direction of the Acting Principals and Unit Leaders supervise students in the cabins, dining room and in various instructional and recreational activities. They cooperate with and assist classroom teachers in the supervision of students in all activities.

Cabin/Trail Aides (high school students) under supervision of the Outdoor School staff, provide assistance with the supervision of students in cabin living, recreational and free time activities. PLEASE NOTE: These young people participate from local high schools for one week periods as part of their camp counseling class under the Regional Occupational Program. The high school cabin aide is under 18 years of age and may not assume the role of a responsible adult while on the trails.

ORANGE COUNTY OUTDOOR SCHOOL ORGANIZATION CHART



PONDEROSA CAMP
SAMPLE: OUTDOOR SCHOOL SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	7:50 - Flag Ceremony	7:50 - Flag Ceremony	7:50 - Flag Ceremony	
Buses Arrive - 10:30 am	*Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.
Students settled in cabins Classroom Teachers meet with Principal and/or Lead Teacher	9:20 - 11:30 a.m. TRAILS: Group A - Chaparral Group B - Geology Group C - Forest Group D - Riparian *(Outdoors - Weather Permitting)	9:30 - 10:30 a.m. Evaluation Session with Classroom Teachers Sign-ups for Thursday P.M. Activities Special Activities 11:00 - 3:00 p.m. PICNIC HIKE: Group A - Forest Group B - Riparian Group C - Chaparral Group D - Geology	9:30 - 11:30 a.m. TRAILS: Group A - Geology Group B - Forest Group C - Riparian Group D - Chaparral	9:00 - 10:00 a.m. Ranger Program Classroom Teachers provide supervision 10:00 - 10:30 a.m. Classroom Teacher/ Student Evaluations "Mini-Hike" 10:30 - 11:15 a.m. Square Dancing Classroom Teachers meet with Outdoor School Principal and/ or Lead Teacher
Lunch - 12:30 p.m.	Lunch - 12:00 p.m.	Lunch on Trail	Lunch - 12:00 p.m.	Lunch - 11:30 a.m.
1:30 p.m. - Classroom Teachers and Cabin Leaders meet - Student Orientation 2:30 p.m. Trail Orientation for Classroom Teachers - Activities for Students	1:15 - 2:00 p.m. Rest 2:00 - 4:00 p.m. TRAILS: Group A - Riparian Group B - Chaparral Group C - Geology Group D - Forest Showers/Recreation	3:00 - 4:00 p.m. Showers, Rest 4:00 - 5:00 p.m. Recreation	1:15 - 2:00 p.m. Rest 2:00 - 4:00 p.m. Social Activities Classroom Teachers and Outdoor Staff provide instruction 4:00 - 5:00 p.m. Showers, Rest, Pack	12:30 - 1:00 p.m. Depart 2:00 - 2:30 p.m. Arrival at Home School
Dinner - 5:30 p.m.	Dinner - 5:30 p.m.	Dinner - 5:00 p.m.	Dinner - 5:00 p.m.	
6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Star Study 9:00 p.m. Lights Out	6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Night Hike 9:00 p.m. Lights Out	6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Camp Fire Program 9:00 p.m. Lights Out	6:45 - 8:30 p.m. Square Dancing 9:00 p.m. Lights Out	

RANCHO PINES CAMPS
SAMPLE: OUTDOOR SCHOOL SCHEDULE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	7:50 - Flag Ceremony	7:50 - Flag Ceremony	7:50 Flag Ceremony	
Buses Arrive - 10:30	*Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.	Breakfast - 8:00 a.m.
Students settled in cabins Classroom Teachers meet with Principal and/or Lead Teacher	9:20 - 11:30 a.m. TRAILS: Group A - Chaparral Group B - Geology Group C - Forest Group D - Riparian *(Outdoors - Weather Permitting)	9:30 - 11:30 a.m. TRAILS: Group A - Forest Group B - Riparian Group C - Chaparral Group D - Geology	9:30 - 10:30 a.m. Special Activities Classroom Teacher and Outdoor Staff provide instruction 11:00 - 3:00 p.m. PICNIC HIKE: Group A - Geology Group B - Forest Group C - Riparian Group D - Chaparral	9:00 - 10:00 a.m. Ranger Program Classroom Teachers provide supervision 10:00 - 10:30 a.m. Classroom Teacher/ Student Evaluations "Mini-Hike" 10:30 - 11:15 a.m. Square Dancing Classroom Teachers meet with Outdoor School Principal and/or Lead Teacher
Lunch - 12:30 p.m.	Lunch - 12:00 p.m.	Lunch - 12:00 p.m.	Lunch on Trail	Lunch 11:30 a.m.
1:30 p.m. - Classroom Teachers and cabin leaders meet. 2:30 p.m. Trail Orientation for Classroom Teachers - Activities for Students	1:15 - 2:00 p.m. Rest 2:00 - 4:00 p.m. TRAILS: Group A - Riparian Group B - Chaparral Group C - Geology Group D - Forest Showers/Recreation	1:30 - 2:00 p.m. Rest 2:00 - 2:30 p.m. - Classroom Teachers and students meet - Evaluation session - Sign-ups for Special Activities 2:30 - 4:15 p.m. Special Activities Showers/Recreation	3:00 - 4:00 p.m. Showers, Rest, Pack 4:00 - 5:00 p.m. Recreation	12:30 - 1:00 p.m. Depart 2:00 - 2:30 p.m. Arrival at Home School
Dinner - 5:30 p.m.	Dinner - 5:00 p.m.	Dinner - 5:00 p.m.	Dinner - 5:00 p.m.	
6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Star Study 9:00 p.m. Lights Out	6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Night Hike 9:00 p.m. Lights Out	6:15 - 7:00 p.m. Recreation 7:00 - 8:30 p.m. Camp Fire Program 9:00 p.m. Lights Out	6:45 - 8:30 p.m. Square Dancing 9:00 p.m. Lights Out	

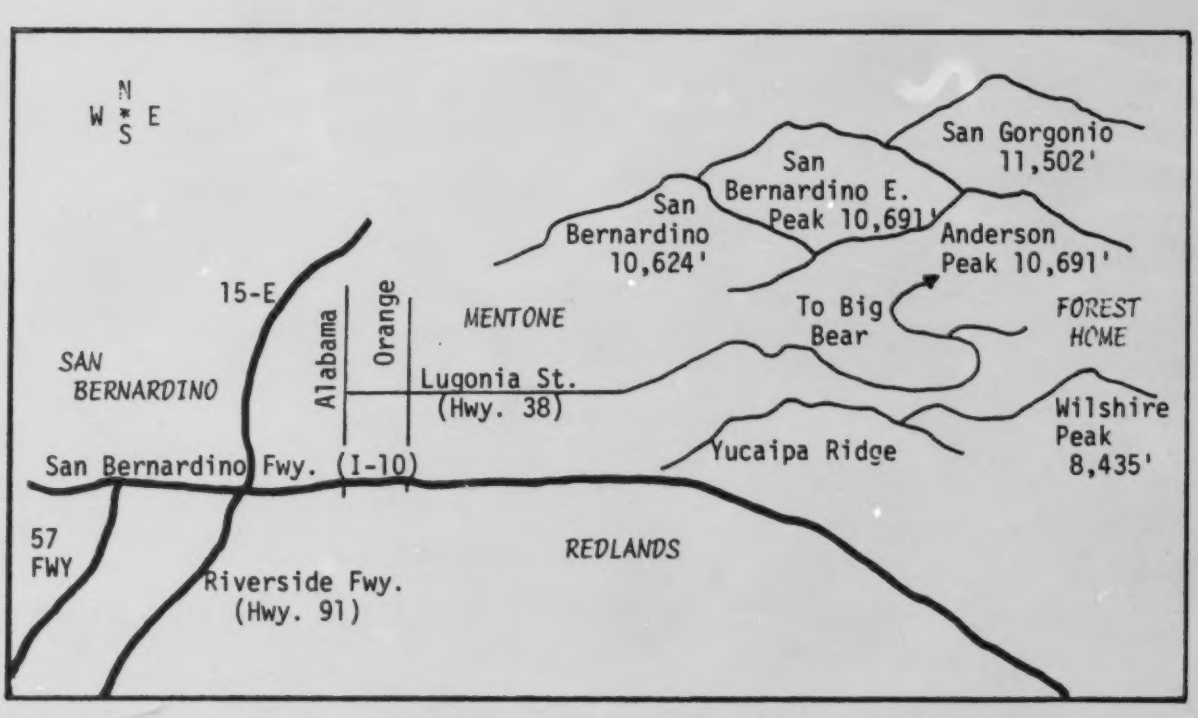
FOREST HOME SITES

Geography of the Area

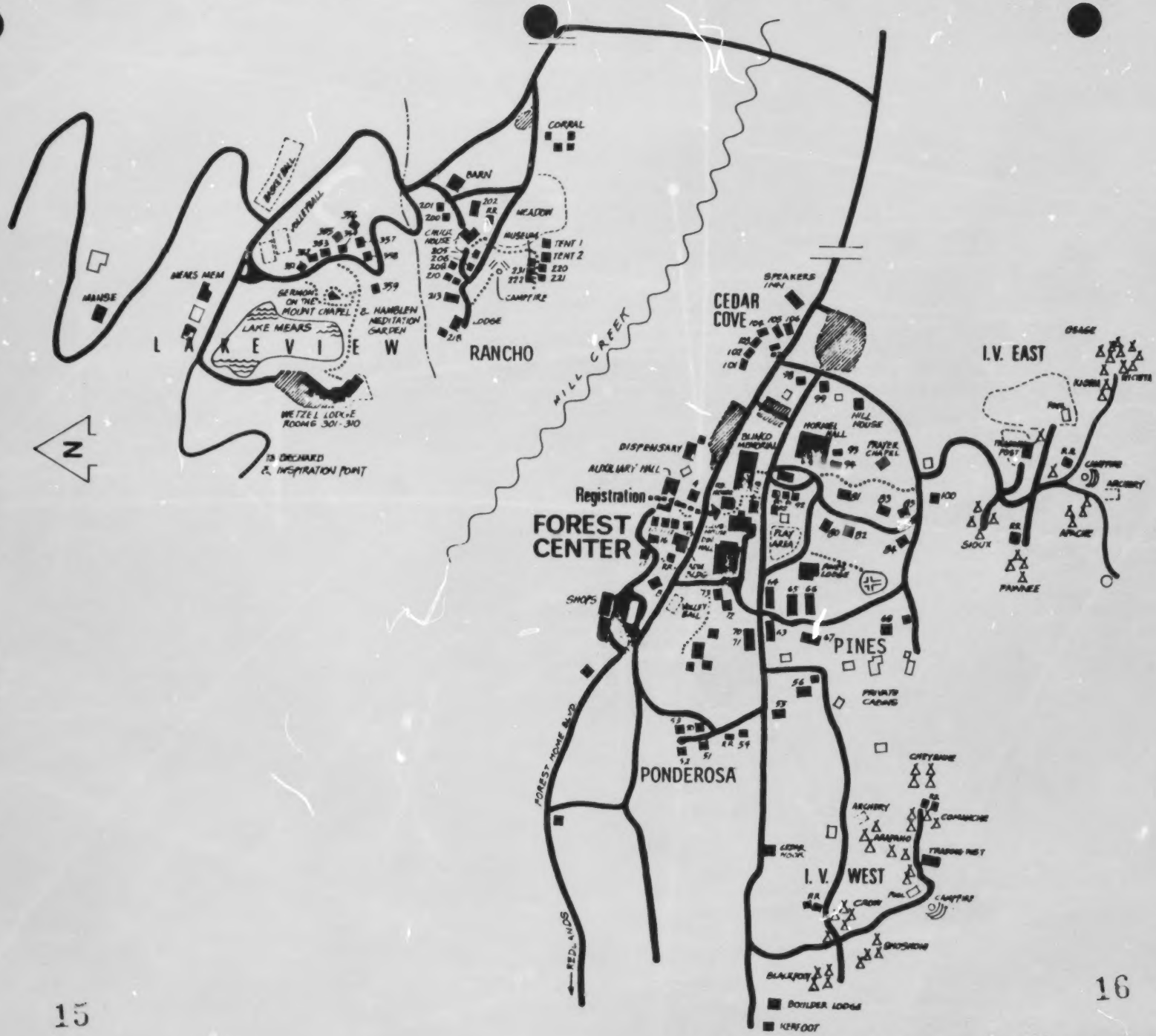
Almost eighty miles to the northeast lie the San Bernardino Mountains. The Orange County Outdoor School is located approximately 25 miles from the city of San Bernardino in a narrow canyon called the "Valley of the Falls." A small cabin on the Forest Home grounds will be your mile-high home for five days.

The San Bernardino Mountains, as well as the neighboring San Gabriel Mountains, are located in the Transverse Range system of mountain chains that stretch from east to west. The San Bernardino Mountains were formed by extensive folding and faulting. The San Andreas Fault adjoins the Mill Creek Fault near the mouth of the canyon. Mill Creek Canyon was formed through activity along these faults and erosion by the stream.

The Outdoor School is located at 5,280 feet just two miles to the east of Highway 38 which continues on to the Barton Flats area and Big Bear. In the wilderness areas above the Outdoor School are many trails leading to meadows, dense forests and high peaks. San Gorgonio peak, the highest peak in Southern California (11,502"), stands above the timber line only a few "hiking miles" from the Orange County Outdoor School.



Take the Riverside Freeway (Highway 91) to the San Bernardino Freeway (Interstate 10). Take Interstate 10 towards Redlands. When entering Redlands, take the Orange off-ramp. Turn left on Orange, go under the freeway to Lugonia Street and turn right. Follow this street through the town of Mentone (Highway 38), past the Mill Creek Ranger Station, through Mountain Home Village to the Forest Home cutoff.



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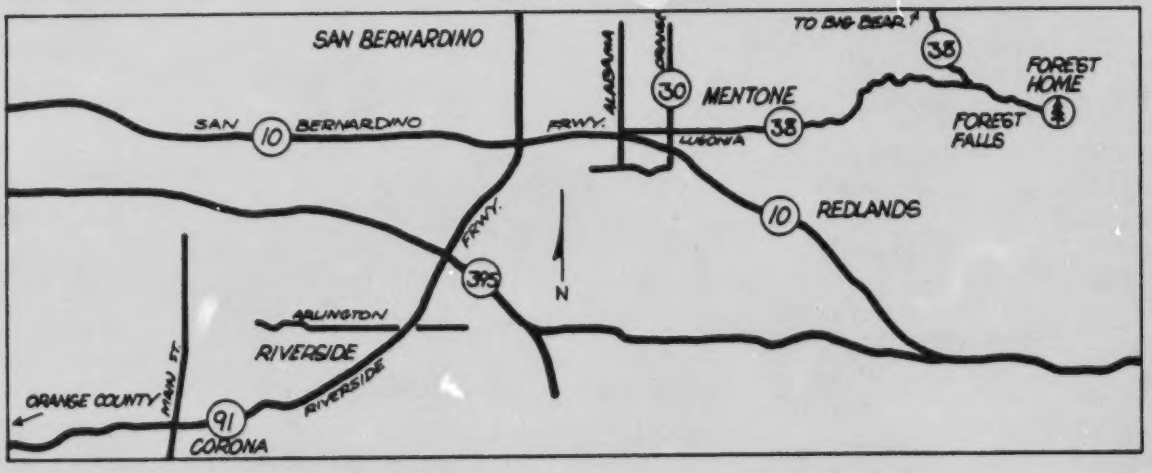
FREEWAY ROUTES TO ORANGE COUNTY OUTDOOR SCHOOL AT FOREST HOME



WHEN ENTERING REDLANDS, TAKE THE ALABAMA OFF RAMP TO LUGONIA STREET. RIGHT ON LUGONIA THROUGH THE TOWN OF MENTONE, (NOW HWY 38) PAST THE MILL CREEK RANGER STATION, THROUGH MOUNTAIN HOME VILLAGE TO THE FOREST HOME CUTOFF.

Name

CHECKLIST FOR NEW STAFF MEMBERS

	ARRIVAL	DEPARTURE
FORMS TO FILL OUT:		
1. Interest Finder		
2. Medical Card		
3. Directory Sheet Information		
4. Sign Policy Sheet		
5. Time Card		
MATERIALS		
1. Staff Jacket & Name Tag		
2. Staff Manual		
3. First Aid Kit		
4. Safety Manual		
5. Camp Supplement to Manual		
6. Pack, if needed (label with name)		
7. Directory		
8. Staff Number		
9. Intruder Card		
TRAINING:		
1. Tour of Camp		
2. Schedule (read thoroughly)		
3. Read Manual and Supplement		
4. Meet Nurse (medical procedures)		
5. Meet Cooks		
EARLY DEPARTURE:		
1. Letter of Resignation		
2. Forwarding Address		

GETTING STARTED

You've chosen a very difficult path to travel . . . .
A path filled with opportunities and disappointments
A path most people try to avoid because of the responsibilities

But I see you striving to push ahead
And I know you will succeed
You have chosen the path to be real
And because of this you will suffer

But, you will grow . . . .

- A.T.

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GETTING STARTED

I. STAFFING RESPONSIBILITIES

A. Acting Principal

1. Organizes, schedules and supervises site, program, staff and classroom teachers
2. Works with Forest Home staff (kitchen, accommodations, maintenance and business office) and principal in physical operation of site
3. Supervises the nurse and is responsible for the health and safety concerns regarding the program and staff
4. Works with staff, classroom teachers and principal in handling discipline problems
5. Manages site supplies and equipment
6. Assists with development of program and staff inservices and training
7. Completes necessary reports
8. Communicates with principal and outdoor school specialist on needs and progress of program

B. Naturalist

1. Assists acting principal in duties mentioned above
2. In charge of site when acting principal is off duty
3. Assists in training of new cabin leaders
4. Responsible for inventory, care and reordering of equipment and supplies
5. Conducts teaching responsibilities on trails and evening activities
6. Helps organize large group activities (campfires, square dances, free choice, etc.)
7. Supervises students and staff at meal times, conducts meals and evening bedchecks
8. Is the resident specialist in natural science and in interpretive activities to include:
   a. developing a museum (including displays, exhibits, demonstrations, and investigations)
   b. nature presentations for staff and students
   c. identification and preservation of biological specimens
   d. feeding, maintaining, and giving daily care to mammals, birds, reptiles and other animals in the museum

C. Unit Leader

1. Assists in the training of new cabin leaders
2. Trains classroom teachers on trails the first day
3. Helps organize and care for the site: staff lounge, dining room, cleaning buckets, trail equipment and supplies
4. Supervises students and staff at meal times and conducts meals and evening bedchecks
5. Assists with cabin inspections
6. Provides orientation and supervision of visiting ROP students
7. Helps organize large group activities (campfires, square dances, free choice, etc.)

8. Supervises the students and cabin leaders in their unit
   a. organizes night hikes, star studies and free time activities with the unit
   b. assists cabin leaders in large group discipline
   c. observes cabin leaders on trails, in cabins, and during activities
   d. assists cabin leaders during training and develops and strengthens their talents
   e. is reponsible for evaluations of cabin leaders
9. Communicates successes and problems to acting principal

D. Cabin Leader

1. Supervises 5th and 6th grade students during various outdoor school training activities (nature studies, meals, rest periods, free time, cabin living activities, flag ceremony, bedtime, etc.)
2. Assists with loading, unloading and supervision of students during times of bus arrival and departure
3. Leads singing, square dancing, craft activities and conducts evening programs (night hikes and star study)
4. Assists students during meal setups, cleanups, under the supervision of the person on duty
5. Helps students develop and practice skits for campfire programs
6. Guides students in remaining healthy, safe and happy; works closely with nurse when necessary
7. Demonstrates consistency with policies
8. Develops and shares special talents with the Outdoor School staff
9. Works closely with unit leader, asks unit leader for help with problems

E. Visiting Classroom Teachers

1. Pre-camp preparation
   a. attends inservice program to receive background information and materials necessary to prepare their class
   b. works with students to establish behavioral goals and standards for the trip
   c. reviews basic science concepts and vocabulary related to the units taught at the Outdoor School with students
   d. notifies parents regarding appropriate clothing, health and medical procedures and expected academic and social learnings to be accomplished during the week at the Outdoor School
   e. organizes students into cabin groups

2. On-site responsibilities
   a. attends all scheduled meetings and evaluation sessions with the Outdoor School staff and students
   b. teaches one of the four major trail activities four scheduled times during the week; also conducts free choice or special activities as assigned
   c. eats all meals in the dining room and assists Outdoor School staff with supervision at meal time
   d. cooperates with the Outdoor School staff with special health problems, disciplinary actions and supervision as needed

3. Follow-up
   a. completes an evaluation form for teachers
   b. distributes, collects and returns all parent, teacher, and principal evaluation forms the week following participation at the Outdoor School which will be available for you to read approximately one month after the school has participated
   c. conducts activities in the classroom after the Outdoor School week (i.e., school newspaper, displays, slide/tape show, class album, original stories, poems, journals, etc.)

F. Visiting ROP Students (Regional Occupational Program)

1. ROP's are high school students (released from their regular classes to learn and assist in the Outdoor School program
   a. they are enrolled in a recreation leadership class
   b. help provide a positive learning experience for them

2. ROP's will be used in various capacities
   a. as aides in cabins, under the supervision of cabin leaders and unit leaders
   b. as cabin leaders with their own group of students, under the supervision of a unit leader

3. Responsibilities
   a. they may not leave the site during the week
   b. they will follow the policies established by the Outdoor School staff
   c. they will follow a group of students throughout the week to observe and learn leadership techniques
   d. they will help with supervision at meals, on trails, during evening activities and in the cabins

II. CREATE GOOD RELATIONS

A. Work together as a team, respect other staff members

1. Students are taught by many teachers during the week
2. Consistency is very important, prevents confusion and feelings of unfairness
3. Accept help and ask for assistance

B. Good relations are important among staff

1. Our personal and professional lives intertwine
2. Consideration of others is the key
3. Maintain good lines of communication
4. Use tact with others (put yourself in their shoes)
5. Don't contribute to rumors that may hurt someone
6. Treat other people the way you like to be treated
7. Discuss concerns that you may have trouble solving or understanding privately with the acting principal

C. Good relations with the classroom teacher

1. Classroom teachers have very valuable and active roles before, during and after our program (see teacher's section of this manual)
2. They may be apprehensive and reserved at first, help them feel welcome
3. Step forward and introduce yourself early in the week
4. Show an interest in the teachers
5. Include them in social activities
6. Consult with acting principals about problems with students before approaching classroom teachers
7. Be friendly when asking or answering questions about their students
8. Have the children invite the teachers to visit their cabins and arrange an appropriate time
9. Remember that the students belong to the classroom teachers: we are working <u>with</u> the teacher for the benefit of the students

III. STAFF BUSINESS

John Doe
Orange County Outdoor School
at Forest Home
Forest Falls, CA 92339

or

Orange County Outdoor School
39364 Oak Glen Road
Yucaipa, CA 92399

A. Outdoor School Phone Numbers

Principal's Office (Dan Baker)	(714) 794-1988
Ponderosa and Pines site	(714) 794-1988
Rancho site	(714) 794-5715
Oak Glen site	(714) 790-1560
Forest Home, Round House	(714) 794-1127
Outdoor School Specialist (Nina Ross)	(714) 953-3854

(Please record calls on phone log. Make your calls during your time off - <u>not</u> during meals.)

B. Salary and Benefit Information

1. You will receive two (2) checks a month; one shows no deductions, the other shows Federal and State tax deductions for the entire month
2. Paydays are on the 10th and 25th of each month (if payday falls on a weekend you will recieve your check that Friday; if payday falls on a holiday, you will receive your check the day before the holiday)
3. Room and board will be provided for employees Monday - Friday
4. All staff members are covered by Workers Compensation (job related injuries) and Campers Insurance (illness) on days of illness

C. Arrival on Mondays

1. Arrive at 10:00 a.m.
2. If you might be late or are ill, phone the principal, acting principal, or the outdoor school specialist <u>immediately</u>

D. Time Off

1. Daytime - leave a note on the acting principal's desk stating name, time out, and destination - return at least 10 minutes before children return
2. Evening - sign yourself out with duty person - return by 11:45 p.m. and sign yourself in
3. The staff lounges are available; please be considerate of others needs to relax; please help keep lounges neat, clean and attractive

E. Personal Belongings

1. Keep valuables at home or locked in your car
2. Please use TV, stereos, radios, etc. during time off only
3. In addition to your own personal belongings, you will need the following items
   a. essential - watch, alarm clock, flashlight, rain poncho
   b. optional - clipboard, pencils, paper, camera, chapstick, waterproof boots (snowmobile boots work very well), free time ideas (i.e. bedtime stories, games, songs, musical instruments, skit ideas, puppets, crafts, etc.)
4. Report any lost or missing items to the acting principal

F. Visitors

1. Make arrangements with principal ahead of time
2. Visitors must pay for any meals they eat
3. Overnight accommodations are not available for visitors
4. Visitors should not interrupt your duties and responsibilities

G. Dress Code

1. Dress appropriately for a school setting - be neat, clean and well groomed
2. We have many visitors and the impression you make reflects upon our program
3. Shoes and socks are required
4. Long pants are required on trail activities
5. Dress appropriately for changes in the weather and for all activities as you are a "model" for our visiting students

VI. ORANGE COUNTY OUTDOOR SCHOOL POLICIES

It is essential that all Outdoor School employees work together in a spirit of friendliness and cooperation in order to render the greatest service to the teachers and children of Orange County. For this reason the Orange County Department of Education will:

1. *employ personnel best suited by personality, skill and experience to perform prescribed work*
2. *encourage and assist staff members toward growth, training and advancement*
3. *maintain reasonable hours of work and "time-off" periods of suitable length*
4. *provide measures to safeguard and promote the individual employee's health, safety and security*
5. *provide adequate physical facilities and working conditions*
6. *keep employees fully informed about policies and plans affecting them and their work*
7. *encourage employees to submit suggestions, criticism and recommendations in regard to the Outdoor School Program*

Living and working in a resident program for an extended time can result in unusual problems and situations. In order to maintain consistency and safety for everyone, these policies have been established.

There are four parts. Please read each section carefully

A. On-Duty, Response Duty, and Off-Duty Policy

1. Staff members have three time conditions of employment:
   1) on-duty
   2) response duty
   3) off-duty
   a. "on-duty" and "response duty" apply to employment during the week -- "off-duty" applies to weekends and vacation periods
   b. staff members are never to report for "on-duty" or "response duty" status after consuming any alcoholic beverage within the previous eight hours
   c. a certificated or classified staff member shall be responsible for verifying the compliance with the above when a cabin/unit leader returns to duty
   d. if a staff member returns to "on-duty" or "response duty" status with alcohol on his/her breath, or shows a state of inebriation, he/she shall not be allowed to return to his/her duties and shall be terminated by the Outdoor School Principal immediately
2. Although the policy may be difficult to enforce with our visiting teachers and principals, they will be informed upon their arrival that our staff members are held responsible for compliance with the above procedures. The Outdoor School program presents a greater responsibility for the supervision of children and therefore may affect regular "off-duty" social habits.
3. All staff members are reminded (and we believe most are aware) that employment involving the supervision of children additional social responsibility not normally required other jobs.

4. In the event any person enters the camp, disrupts, disturbs or displays himself/herself in an anti-social manner, the Sheriff shall be called by a certificated staff member, immediately. Every reasonable method should also be employed to prevent harm to the children or staff.

B. Policy for Dealing with Loiterers

1. Suspicious persons must be reported to the principal, acting principal, naturalist, or staff in the Forest Home Round House who will phone police, if necessary.

2. Be familiar with "Intruder Card"

WARNING TO LOITERERS

PENAL CODE—State of California—Section 653g

"Every person who loiters about any school or public place at or near which children attend or normally congregate is a vagrant, and is punishable by a fine of not exceeding five hundred dollars ($500) or by imprisonment in the county jail for not exceeding six months, or by both such fine and imprisonment."

(Over)

As used in the section, "loiter" means to delay, to linger, or to idle about any such school or public place without a lawful purpose for being present.

(Amended by Stats. 1970, c. 977, p. 1747, s. 1)

3. All visitors must check in with the principal, acting principal or naturalist upon arrival at the site.

BEST COPY AVAILABLE

C. Policy Concerning Staff Relations With:

1. High school students (*The visiting high school students from the ROP program are considered minors. They are at the Outdoor School to learn and to assist our staff.*)
   a. do not transport ROP students in your cars
   b. do not engage in intimate relations with ROP students
   c. conduct yourself as ladies and gentlemen when dealing with high school students - you are a model for them, just as you are a model for 6th graders
   d. assume that anything you say in front of a high school student will be repeated at their home or school when they return
   e. do not encourage or engage in the use of illegal drugs or alcohol with ROP students
2. Students
   a. be familiar with safety rules and regulations at the Outdoor School (see the Outdoor School Safety Handbook)
   b. never place yourself alone with a child - make sure a third person is present at all times
   c. after the lights are out in the cabin, you must turn on a flashlight when moving about for <u>any</u> reason - this will ensure your safety and the students will be able to identify you
   d. do not abuse a child physically, mentally, or sexually
   e. assume that anything you say or do will be repeated to teachers and parents when students return to their home (i.e., discussions about sex, drugs, foul language, etc.)
3. Visiting classroom teachers
   a. always be polite and demonstrate respectful behavior
   b. be tactful and refrain from saying anthing that might embarrass the teachers, our program or their children
   c. do not accept alcoholic beverages or drugs from classroom teachers
   d. do not engage in intimate relations with classroom teachers
4. Other staff members
   a. be helpful, respectful and kind to fellow employees
   b. do not engage in activities that will prove to be embarrassing to the Outdoor School
   c. do not engage in intimate relations in or around the Outdoor School site

D. Policy Concerning Personal Responsibilities

1. Personal behavior
   a. smoke only in designated areas
   b. do not chew gum in front of children
   c. do not tell ghost stories or frightening stories to children
   d. do not sleep in the nude in a cabin with children
   e. do not swear at children or in front of children
   f. do not have any undesirable reading materials in your cabin
   g. do not promote double standards with the children; i.e.
      1. if we require children to wear protective clothing on the trail, then we expect you to wear protective clothing
      2. if we expect children to use good table manners then we expect you to use good table manners
   j. do not talk about your intimate relationships when children are present

k. do not speak about or attempt to influence children by discussing your religious beliefs
l. if you become totally frustrated get help fast - do not do anything you will be sorry for later

2. Medical procedures with students
   a. be familiar with the procedures for tactfully handling bedwetters (enuresis)
   b. before you take a child to the infirmary, call first to make sure the nurse or someone will be there
   c. If a child is cut, scraped, or has any other form of broken skin, it must be checked by the Outdoor School nurse
   d. if a child is bitten by any animal it must be reported to the Outdoor School nurse
   e. if a child bumps his/her head, it must be reported to the Outdoor School nurse
   f. if a child chips or breaks a tooth, loses a crown, or has a loose tooth, it must be reported to the Outdoor School nurse
   g. any injury sustained by a staff member must be reported to the Outdoor School nurse
   h. any child who is feeling ill or who was ill during the night is to be reported to the nurse
   i. if a child continues to complain about an injury after he/she has been seen by the nurse, return him/her to the nurse
   j. report any child who is extremely worn-out because of lack of sleep to the acting principal
   k. do not carry injured or ill children to the infirmary on your back - if a child is hurt so badly that the/she can not walk, send a person for assistance and a stretcher

3. Health and safety procedures with students
   a. do not leave your cabin at night before 9:30 p.m. - wait until later if the children are still awake
   b. do help out if you see a light on in a cabin at night - it is a signal that someone needs assistance
   c. do not leave the site without checking out with the duty person
   d. do be on time for all group activities
   e. do call in early if you think you will be absent or late
   f. do conduct a search for an item if a child tells you he has had an item lost or stolen; if nothing is found, report the incident to your acting principal
   g. do not take the children from the Outdoor School site without a credentialed teacher
   h. do not conduct cabin raids or allow children to conduct cabin raids
   i. if you see an unidentified person on the school site, do report it immedaitely to your supervisor
   j. do report any damage to your cabin to your acting principal as soon as possible
   k. do not disturb children in the cabins after lights are out with loud singing, noise, radios or lights
   l. do not visit children that you have met at Outdoor School or invite them to social events or campouts
   m. do not transport children in your cars
   n. do establish your cabin and safety rules on the first day the children arrive
   o. do read and follow the schedule for your camp - ask for help if you don't understand it
   p. do follow advice given to you by your acting principal, naturalist and unit leaders

E. Termination of Services

1. Resignation
   a. staff members are expected to give written resignation notice
   b. there should be a minimum of two (2) weeks notice
   c. failure to give proper notice will affect references for future employment opportunities (see acting principal for resignation form)
   d. during the period between notice and actually leaving the position, the worker should provide a high quality experience for children and maintain a positive attitude

I have received, read, and understood all of the Orange County Outdoor School policies and agree to abide by them.

Signed _____

Date _____

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ME, A LEADER?

As a cabin leader you are in a unique position to enjoy sixth graders and learn about the natural history of Southern California. It can be quite demanding, but extremely rewarding. Make the best use of your time by approaching the job with an attitude of service and an opportunity for growth.

I. CHARACTERISTICS OF A GOOD CABIN LEADER

A. Be a Good Model - lead by example as students will copy you (table manners, gestures)

1. Appearance - cleanliness, no holes in clothing, shirts tucked in, boys shave, girls - no excessive makeup
2. Neat living quarters
3. Use correct English - no slang or profanity

B. Be Considerate and Patient

1. Listen to others
2. Learn to accept constructive criticism
3. Develop a sincere liking for children - even "bad ones"

C. Be Enthusiastic - it's contagious

1. Demonstrate a love of fun in any situation
2. Use a sense of humor to keep spirits light

D. Be Friendly to <u>All</u> Members of the Group

1. Use tact, poise, and cheerfulness when speaking to camp staff and teachers
2. Warmth - no sarcasm or ridicule

E. Be Cooperative

1. Make yourself useful and available to people
2. Be a supportive team member of the staff, we're here for the kids
3. Use initiative - find things that need to be completed without being told

F. Be Dependable

1. Be on time for scheduled activities
2. Use persistence to finish what you start

G. Be Resourceful

1. Have pride in yourself and the outdoor school program
2. Always be ready with an activity, story, game, etc.
3. Develop your curiosity to learn about things just for the sake of knowing

H. Be Knowledgeable

1. Develop skills in many activities - trails, free choice, free time,
2. Have an appreciation and respect for the outdoors, music, activities, etc., and share it with the students

I. Be Flexible - be able to change your behavior as new situations arise

1. Be ready for the unexpected
2. Be adaptable to changes and capitalize on them

J. Be Responsible - there is no greater duty or function in life than to assume responsibility for another human being

1. Have a wholesome appearance, clean dress and constructive behavior
2. Develop stamina for long days, get your sleep, observe good eating habits
3. Employment involving children carries extra social responsibility not normally required in other jobs

II. UNDERSTANDING SIXTH GRADERS

A. Characteristics and Needs

Children of this age group, like those of other age groups, show a great deal of variation in physical and mental growth. Since these children are approximately 10, 11 and 12 years old, some of them will be starting their pubescent spurt which will cause greater differences.

1. Physical growth
   a. at this time the girls are frequently taller and heavier than the boys
   b. because of rapid muscle development, awkwardness, and poor posture may be apparent
   c. because the heart is not growing as rapidly as the body, blood pressure may fall and children can become fatigued easily; they need at least 10 hours sleep per night and a rest period during the day
   d. they are concerned about their physical size and appearance
2. Social and emotional growth
   a. some antagonism between the sexes will be noticeable, mostly with the boys
   b. they are beginning to develop strong feelings of individuality
   c. prestige among their own group will often be more important than adult guidance
   d. some of these children will show a strong desire for privacy
   e. hero worship is still prevalent
   f. a tendency to daydream or to be easily distracted may begin to show with some of them
   g. they have some difficulty calming down after a strenuous activity
3. Needs and implications
   a. they should be encouraged to develop good spectatorship as well as good sportsmanship
   b. be conscious of the problems shown by children who are maturing much faster or much slower than their classmates
   c. be especially sensitive to children who are homesick
   d. provide opportunities for discussion of personal problems both privately and in the group
   e. always set a good example
   f. use methods of control which will preserve the trust and respect of you as a cabin leader
   g. create a sense of belonging and acceptance by peer group
   h. they will all seek and need recognition, approval, attention, respect, prestige
   i. they want to succeed, achieve, solve a difficult problem and develop self-confidence
   j. they need adventure, change, new experiences, fun, freedom, opportunity to learn, opportunity to make choices
   k. they need understanding, affection, trust, help, discipline, guidance
   l. they need shelter, food, rest, health and safety, exercise, time alone, security
   m. they need friendship, individuality and love

B. Practical Tips

1. A time for rapid growth and great physical change; surplus energy is evident followed by periods of fatigue
   a. expect restlessness and unusual behavior; provide activities to allow students to move around; make sure they rest in between activities
   b. students will refuse to rest - insist upon rest before next event
2. Frequent minor illnesses and complaints
   a. be patient and understanding
   b. individual attention is sometimes needed
3. Tendency to feel akward and self-conscious
   a. be considerate rather than demanding when student is embarrassed or upset
   b. divert attention away from the person until he is comfortable again
   c. ease, rather than force shy students into the spotlight of involvement
   d. praise helps the less confident student
4. Increased concern for community, world and environmental problems
   a. provide activities which will let the students do something about some problems, i.e. repair areas damaged by erosion, pick up litter, report misuses of land
5. Gradual increase in reasoning ability and in handling abstractions
   a. provide opportunities for experience in critical thinking in realistic problem solving; do not solve problems for them
   b. give them opportunities for planning, decision-making, and solving cabin problems
6. Readiness to accept quick conclusions
   a. try to get them to look at several conclusions or solutions, then select the best
   b. help them look at conclusions as subject to modification upon the gaining of new insight
7. Widening range of individual difference in abilities and interests
   a. be sure to challenge all students in your care
8. Growing interest in physical attractiveness and appearance
   a. stress personal hygiene - cleanliness, teeth and nail care
   b. show value of personal neatness and grooming
   c. emphasize cabin cleanliness and orderliness
9. Desire to excel in group activities
   a. provide activities in which everyone may have some responsibility
10. Desire to talk and argue rather than to listen
    a. be sure to challenge all students in your care
    b. teach them to analyze and summarize what another has said: "Did I hear you right", "Did you mean ...."
    c. teach them to respond to what someone has said and not to ignore the thought and talk about something else
11. Conflict due to desire for independence; half-child, half-adult, desire for privileges, but not the responsibilities
    a. lead students to see that privileges are accompanied by responsibilities
    b. teach that all people must accept the consequences of their actions
12. Status with peers is more important than approval of adults
    a. provide activities in which students can work together in achieving goals

13. Reluctance to be different from the group physically or socially
    a. lead students to realize that people differ in as many ways as they are similar and that difference is "okay"
    b. show, by example that you accept the differences between yourself and them
14. Heightened sense of fairness, but groups often act undemocratically
    a. stress democratic process
    b. be fair with all the students and encourage them to do so
15. Emerging awareness and companionship with opposite sex
    a. accept it as normal and discourage silliness about it
    b. encourage ladylike and gentlemanly behavior when with the opposite sex
16. Idealistic; inclined toward hero-worship
    a. be the best example for all
    b. realize that the students will imitate your manners, attitude and language
    c. include all students, not just one or two, when relating to them
    d. accept this idealism, but avoid going on an ego-trip or becoming self-centered
17. Tendency to be rude, but are not aware of it
    a. gently make students aware that what they said hurt you or someone else and that they could have said it another way
    b. do not become too upset and authoritarian when confronted with rudeness

There are other characteristics since each child grows at a different rate. Accept each child where he/she is and help him/her grow by understanding and by the consistency of limits. (The sixth grader wants to know the limits and wants enforcement of those limits.) However, within these limits, which we will help you set, be sure to allow for some flexibility as long as health and saftey are top priority and you are supervising.

C. 21 Memos from a Student

1. Don't spoil me. I know quite well that I ought not to have all that I ask for. I'm testing you.

2. Don't be afraid to be firm with me. I prefer it; it makes me feel more secure.

3. Don't let me form bad habits. I have to rely on you to detect them in early stages.

4. Don't make me feel smaller than I am. It only makes me behave stupidly "big".

5. Don't correct me in front of people if you can help it. I'll take much more notice if you talk quietly with me in private.

6. Don't make me feel my mistakes are sins. It upsets my sense of values.

7. Don't protect me from consequences. I need to learn the painful way sometimes.

8. Don't be upset when I say "I hate you." It isn't you I hate but your power to thwart me.

9. Don't take too much notice of my small ailments. Sometimes they get the attention I need.

10. Don't nag. If you do, I shall have to protect myself by appearing deaf.

11. Don't forget that I cannot explain myself as well as I should like. This is why I am not always very accurate.

12. Don't make rash promises. Remember that I feel badly let down when promises are broken.

13. Don't tax my honesty too much. I am easily frightened into telling lies.

14. Don't be inconsistent. That completely confuses me and makes me lose faith in you.

15. Don't tell me my fears are silly. They are terribly real and you can do much to reassure me if you try to understand.

16. Don't put me off when I ask questions. If you do, you will find that I stop asking and seek my information elsewhere.

17. Don't ever suggest that you are perfect or infallible. It gives me too great a shock when I discover that you are neither.

18. Don't ever think it is beneath your dignity to apologize to me. An honest apology makes me feel surprisingly warm toward you.

19. Don't forget how quickly I am growing up. It must be very difficult to keep pace with me, but please try.

20. Don't forget I love experimenting. I couldn't grow without it, so please put up with it.

21. Don't forget that I can't thrive without lots of understanding love, but I don't need to tell you, do I?

III. LEADERSHIP SKILLS

A. Leadership is the Primary Job of the Cabin Leader (teacher, friend, and big brother/sister)

1. Importance of leadership
   a. in a camp experience, the cabin leader exerts the most influence upon the camper
   b. experience of the outdoor school lasts a long time; the leader can provide many opportunities for growth
   c. students can learn
      1. deeper self-respect
      2. responsibility for possessions and himself
      3. deeper sense of security by understanding and accepting others
      4. pleasures of group living
      5. ways to provide own entertainment
      6. knowledge of natural history
2. Kinds of leaders - 3 main types
   a. authoritarian
      1. leader makes all decisions, no responsibility given to individuals
      2. controls by force and fear of consequences, bossy
      3. results - hostility, aggression, fear and disobedience; tuned out by children
   b. "laissez-faire"
      1. leader lets group do what they want, favors almost complete freedom for group and minimum leader participation
      2. tries to be one of the group, believes in complete self-direction
      3. results - loosely structured and disorganized, students have no respect for leader due to lack of control or discipline
      4. group prefers to have limits and some guidance
   c. democratic
      1. combination of authoritarian and "laissez-faire"
      2. encourages rule by group involvement (group discusses and decides, leader encourages and assists)
      3. leader enjoys campers; knows when to have fun and when necessary to control and discipline
      4. works with, for and in the group without losing control of them
      5. results - more total involvement of the individuals in the group, group learns to make decisions; there is an expression of opinions and feelings, individual differences are utilized
      6. satisfying interpersonal relations result among the campers and cabin leader
      7. allows leader to guide by not impose measures upon the group
      8. studies show youth want certain amount of discipline and a leader to use reasonable authority to keep them in line when they tend to stray
      9. democratic leadership is slower, group action takes time but students can grow and mature only through solving problems for themselves
      10. leader should be willing to admit mistakes, students will respect his honesty

B. Guidance and Discipline of Students

1. Discipline is a process from which people learn what is acceptable, desirable, and pleasant for all
   a. children behave best when treated in a manner that is firm, fair and friendly
2. Some reasons why children misbehave
   a. may have unsatisfied needs
   b. seeking attention
   c. to demonstrate power
   d. to punish or get even with others
   e. to test their "limits" and their cabin leader
   f. may feel inadequate
3. Behavior problems
   a. always be on the alert for behavior problems, but do not look for problems
   b. establish standards quickly, do not wait for a problem to arise - set rules to meet situations
   c. look for the little things that individuals do in their daily activities that indicate a potential problem
   d. do not let minor behavior problems become major problems
   e. if you are uncertain how to handle a problem consult your unit leader, acting principal or outdoor school principal
4. Cautions - be careful how you discipline a student; many hours of constructive work, particularly by the classroom teacher, may be ruined by one remark
   a. do not yell at a student
   b. do not embarrass a student, especially in front of others
   c. do not nag or preach
   d. do not try to bluff or offer bribes
   e. do not try to discipline a student while you are angry or irritated
   f. never hit or use physical force or threat of physical force (also, no carrying rocks, pushing, standing outside in underwear, etc.)
   g. do not punish by sending student to bed early or making them clean toilets, etc.)

C. Practical Tips for Changing Student Behavior Problems

1. Establish a rapport
   a. get to know and enjoy them as individuals
   b. learn names
   c. learn 2 or 3 things about each one
   d. share some of your interests when you introduce yourself
   e. set standards and limits
   f. once they know and respect you, they will respond to your requests more easily
   g. explain reasons for rules
2. Reaffirm
   a. if they're not following rules, sit them down and explain why we have them, consequences that have happened in the past; the rules are for their own health and safety

3. Tell
   a. let them know when you've had it
   b. "you're not cooperative" - "listen" - "this is what you need to do - if you don't, I'll have to take some other action"
   c. let them know options - you may want to try a different approach
   d. responsibility is on the students
   e. after you've worked with them with no results, let them know they are going to see the acting principal
   f. be specific, work with individuals who need you
   g. responsibility is on the child - "this is your choice"
   h. say it with meaning and follow through
4. Take student(s) to acting principal

D. Guidance and Discipline Policy of Pupils at Outdoor School

Responsibility for the behavior of students at the Outdoor School will be shared by the entire staff which is made up of the Outdoor School principal, acting principals, naturalists, visiting classroom teachers, unit leaders and cabin leaders. A spirit of teamwork and cooperation between members of the Outdoor School staff and the visiting classroom teachers is stressed.

DISCIPLINE POLICY

First Infraction: Cabin leader counsels with student

Second Infraction: Cabin leader involves unit leader, naturalist, acting principal, or principal in counseling process. The principal, acting principal, naturalist or unit leader will take necessary action to correct the situation and will inform the classroom teacher.

Third Infraction: Student will be counseled by the Outdoor School acting principal or principal. The classroom teacher will be consulted to determine course of action. Parents and home school principal will be notified of child's behavior and disciplinary action taken.

Fourth Infraction: Student is sent home.

THE DECISION TO RETURN A CHILD TO HIS/HER HOME IS MADE BY THE OUTDOOR SCHOOL PRINCIPAL IN COOPERATION WITH THE CHILD'S TEACHER.

NOTE: The transportation of students on days or times other than provided by the home school is the responsibility of the parent

E. Problems You May Encounter

From experience we've learned how to handle some problems that could possibly occur during the week. Reasons, as well as possible solutions, are offered. If you use good common sense in the handling of problems, show sympathy and concern, you should have no trouble.

REASONS	SOLUTIONS
HOMESICKNESS	
Normal reaction to first time away from home	Make sure student is well acquainted in his own group
Feels unwanted in cabin group	Provide opportunities to show abilities and talents
Too much aimless free time	Get the student to take a vital part in some program activity
Quarreling with other youngsters	Make the youngster feel that someone has a personal interest in him
Fear of night noises	Assign special jobs to do
	Don't allow others to criticize. If they do, appeal to them for help. Appeal to their feelings of "how would you like it if you were homesick?"
REFUSAL TO SHARE IN THE WORK	
May never have had any training in accepting own share of work	Make sure that each boy or girl has a fair share of chores
At home rewards were given for work done	Let counselor set example
A way of getting attention	Compliment them on a job well done
Overly pampered and waited on at home	Appeal to their sense of justice and fair play
Work may have been given out as punishment at home	If job is not done, you do it! But let them see you doing it; let them krow you did it, politely, in conversation. Now, appeal to their feeling of sharing and each one holding up his own end of the cabin responsibilities
STUDENTS' NEED FOR INSTRUCTION IN TABLE MANNERS	
Ignorance	Set a good example at all times
Wants attention	Point out social asset in having good manners
Feels insecure and realizes he or she needs help but doesn't know how to get it	Talk to, individually after meal
Defies conventions, customs or any standards set up	Stress importance of everyone cooperating together
	Show how discourteous it is to everyone else

REASON	SOLUTIONS
STUDENTS WHO ARE TIMID AND WITHDRAWN	
May be caused because of a physical problem	Show a sincere concern for his/her happiness and well-being
Has been overdominated	Direct his/her activities so he/she is involved with the group
Has never been away from home before	Give him/her the opportunity to make some unique contribution that he/she knows he/she can perform capably
Is less mature than other students	
Is afraid of doing wrong	
Has been ridiculed	Prevent others from razzing or making fun of him/her
	Overcome fear by patient and sympathetic leadership
STUDENTS WHO EXAGGERATE THE TRUTH - THEY TELL "WHOPPERS"	
A product of a vivid imagination	Demonstrate your concern in what he/she does
Insecurity	Praise
Afraid of facing the real truth	Encourage the truth
Has found satisfaction in daydreaming	Encourage him/her to do things he/she can do well
Always talked down to	Eliminate criticism when his achievements fall below the expected standard
Never has had anyone that would listen to him/her	Give correct evaluation of actions
Has always had difficulty differentiating between reality and imagination	Question kindly and with interest to determine the truth
Lacks self-confidence	Try not to put him/her on the defensive
Has not been able to adjust socially	Show patience and trust

REASONS	SOLUTIONS
STUDENT IS ALWAYS LATE IN GETTING TO ACTIVITY OR DINING HALL	
Naturally slow	Counselor should be exceptionally prompt - know what time it is and where the students need to be
Wants attention and likes to be urged	Praise them when they do arrive on time
Likes to revolt against rules	Explain how camp would be disorganized if everyone acted that way
Does not feel a part of the group	Get the group started sooner
Doesn't see the importance of punctuality	Encourge group entity by lining up and filing out together
STUDENT COMES TO STAFF MEMBER WITH A STORY OF PERSECUTION BY ANOTHER PERSON	
May really have been mistreated at some time	Investigate entire situation and be sure you have both sides of the story
Homesickness	Help student develop friendships in the group
Physical illness	Lead the youngster into some cooperative group activities
Lack of attention	Keep them so busy that they don't notice any real or imagined slights
A cover-up for a misdeed	Give them time to cool off
Difficulty adjusting to new environment	Avert unkind remarks by students or counselors - don't encourage this kind of talk
STUDENT SAYS SOMETHING OF HIS HAS BEEN STOLEN	
Undeveloped sense of ownership or property rights	Develop a sense of ownership in each camper
Wants social recognition	Be sure their things aren't just left around
Influenced by another person	Discourage borrowing
Considered okay at home if you don't get caught	Have a definite place where each camper keeps his things
Doesn't know the value someone else put on it	Talk to the group the first day about honesty

REASONS	SOLUTIONS
Just as a joke	Don't accuse anyone - appeal to their sense of honesty and fair play
Has craving for some particular object	Consult the acting principal

STUDENTS WHO SHOW OFF

Students may have parents who also gave in to his demands	Make every effort that attention does not result from this kind of behavior
Always has been the center of attraction	Meet with friendly indifference - don't ignore completely - talk to privately
Is insecure	Show a true interest in and establish a warm friendship
Leadership traits have been suppressed and are now seeking recognition	Let student know that this kind of behavior is not appropriate. Let him know that he is but one of a group, each of which is equally important and has similar rights
Is seeking to offset a failure in some activity or achievement	
Is trying to cover up some weakness	Help the student find satisfaction in activities that involve responsibility, leadership, and cooperation with the group
No inner assurance of belonging or of being wanted	

STUDENTS WHO MISBEHAVE

Resentment	Set an example of what is acceptable behavior
Lack of social recognition	Don't do anything you don't want them to do
Leader who enforces obedience by demanding it	Correct the problem immediately - don't say it will go away
Leader who makes threats to his group	Talk privately - let student know what is and is not acceptable
Leader who doesn't exert enough discipline -- too easy, is too much of a pal	Compliment him on his good behavior
Emulates a friend or leader who appears to achieve attention through such methods	Show patience
	Don't make an example of him
Is being ridiculed	Consult with the acting principal
Leader who says one thing, does another	Give him responsibility, maintain good attitude

REASONS	SOLUTIONS

STUDENT DISLIKES CERTAIN FOODS AND DOES NOT WANT TO EAT

May have heard disparaging remarks about food	Don't show any dislike for particular foods yourself
May be proud of allergies as an attention-getting device	Urge students to try food
Maybe a food new to the student	Discuss importance of balanced diet and encourage them to explore taste of new foods
Poor home training	
Often counselor's remarks about food discourages boys and girls from eating certain things	

SOME OF YOUR CABIN MEMBERS HAVE FORMED CLIQUES AND ARE EXCLUDING THE OTHERS

Friendships were closely knit before coming to Outdoor School and they do not feel the need for more friends	Help students realize that new friends are always worthwhile
A few feel that they don't belong and are forced to form own group	Promote group participation in planning activities
Cliques may be minority groups who have not had a chance for expression	Maybe the cliques have some good ideas - use them as leaders
Some form cliques to attract attention	Don't patronize the clique
Leader is playing favorites	Be fair with everyone - treat all the same

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STUDENTS WHO HAVE THE FEAR OF DOING THE WRONG THING

Insecurity	Eliminate a critical attitude toward his attempt to do things
Uncertainty of doing the correct thing	Give him a realistic standard to meet
Always criticized	Praise him for what he has done
Continually blamed or yelled at - even for some things not of his own doing	Let him help with tasks you know he can do
People have always expected too much of him	Avoid ridicule when he shows fear that may be doing wrong - this is the time he needs help
Has always been compared to a brother or sister	

REASONS	SOLUTIONS
STUDENTS WHO SHOW LACK OF INITIATIVE	
Overprotection	Encourage him to share his ideas
Everything has been done for him	Give him some responsibility
Too much babying	Give suggestions for improvement when appropriate
Decisions have been made for him	Make sure he is included
No one ever thought he could do the job adequately	Make your enthusiasm contagious
	Make activities enjoyable and interesting so he will want to join

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If you have any problem handling situations, do not be afraid to ask your supervisor for help.

F. Your Leadership Growth

1. Start a collection of ideas in a notebook, write games on index cards
2. Use resources of other cabin leaders, unit leaders and teachers, principals and nurses
3. Use resources of the camp and staff library (always ask first before signing out books, don't keep them too long)
4. Attend workshops, gather ideas (i.e., A.E.O.E., Project Learning Tree, Investigating Your Environment, New Games)

Orange County Outdoor School
Cabin Leader Evaluation

Site _____

Name: _____ Dates: _____ To: _____

I. Cabin Leader - Student Relationships/Cabin Management:

Is kind, patient - yet firm, understanding
Gains acceptance, respect of students
Respects individual differences
Listens to students in an understanding way
Ability and interest in guiding individual students
Creates a happy and cooperative atmosphere
Uses discipline constructively
Uses good judgment
Guides students rather than dominating
Shows ability to organize
Is able to handle problems without upsets
Encourages students to assume responsibilities
Maintains a leadership position
Maintains an attractive cabin environment
Makes cabin assignments clear

II. Responsibility/Staff Relationships:

Accepts share of assigned duties (i.e. cabin checks, dining hall, etc.)
Shows proper care of facilities, supplies
Respects rules of Outdoor School
Sets a good example
Shows concern for health, safety and cleanliness of students
Gains respect of associates
Demonstrates ethical behavior
Helps children with table manners during meals
Makes sure that children are properly clothed
Volunteers to help (iniative)
Works cooperatively with staff
Works cooperatively with classroom teachers

III. Personal Characteristics:

Positive attitude
Sense of humor
Dependability
Physically fit
Endeavors to improve
Seeks assistance when needed
Accepts constructive criticism
Mature control of emergencies
Neat and clean appearance

CABIN' LIFE

You never know when someone
May catch a dream from you.
You never know when a little word
Or something you may do
May open up the windows
Of a mind that seeks light
The way you live may not matter at all,
But, you never know -- it might.

- Helen Marshall

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CABIN LIFE

I. MONDAY SCHEDULE

A. In the Parking Lot

1. Buses will arrive anytime after 10:00 a.m.
   a. one person will board the bus to welcome students
      1. introduce yourself
      2. welcome the group to Forest Home
      3. discuss 3 safety rules - stay with group, walk, do not throw anything
      4. discuss where to go when they exit from the bus
      5. discuss gum (spit it out)
   b. some cabin leaders help unload the luggage
   c. some cabin leaders take students to restroom, sing until cabin lists are ready
2. Divide into cabin groups
   a. you will receive a list of your students - gather them together, take roll and count total number of students
   b. report any discrepancy to unit leader in charge
   c. students carry one piece of luggage at a time to cabin (2 pieces are too heavy, things break, difficult to keep group together
3. Set the tone with your group
   a. learn their names
   b. let them know you're their leader and that there are certain rules they will have to follow
   c. don't hesitate to be firm when necessary
   d. be friendly and make your group feel welcome

B. Moving In

1. Cabin courtesies - involve students in setting standards
   a. respect rights of others in the cabin or dorm
   b. this is your home for the week, take care of it
   c. discuss rough housing, running in and out of dorms/cabins, slamming doors
   d. show respect for other groups when they are passing for breakfast setups or during rest periods
2. Safety in the cabin
   a. heaters
      1. keep items at least 3 feet away, do not drape wet socks over heater
      2. ask cabin leader to adjust if too hot or cold
   b. keep doors unlocked - must be 2 fire exits at all times
   c. store luggage out of walkways
   d. keep rooms neat and clean
3. Assign room and bunks
   a. mix schools in each room when possible
   b. tell students to select bottom bunk if they often get up at night to use restroom, or if they have a warm sleeping bag
   c. nurse will tell you of students who are sleepwalkers or bedwetters (enuresis) - they must be on a bottom bunk
   d. encourage students to make friends and learn to get along; we prefer not to move students to another room after they are assigned to bunks

C. Cabin Meeting

1. Weekly schedule - discuss and post for student reference
2. Cabin boundaries
3. Review safety rules
   a. stay with group and with adult in charge
      (don't send a student by himself or in groups of 2's; problems with raids, missing items, safety, insurance)
   b. always walk (many obstacles could cause injuries)
   c. no throwing (do not throw anything - sticks, stones, dirt, snow, NOTHING!)
      (we are visitors here and the animals have only one home - don't destroy it, besides you might hit your best friend)
   d. no walking sticks (people trip on them, and may stick them into their eyes or face)
4. Emergency Procedures
   a. fire in cabin - crawl out on hands and knees to cool air, remain calm at safe distance
   b. fire bell - report to emergency area with adult in charge
   c. earthquake or nuclear attack - duck and cover
5. Students' equipment list
   a. the students have been told not to bring the following items:
      1. gum and candy (problem with mice and ants, squirrels choke)
      2. radios, tape recorders and electronic games
      3. curling irons
      4. money
      5. knives or sharp tools
   b. if they have any of the items mentioned - take them away and give them to their classroom teacher - it's important to be consistent
6. Making friends
   a. encourage students to make new friends, discourage school or cabin rivalry
   b. visiting other cabins - students must receive permission from their own cabin leader, then the other cabin leader; girls may not visit boys in their cabins and visa versa.

D. Letters Home
1. Show students where to write the address and message
2. Review addressing a postcard properly
   a. name of person sending letter to
   b. house number and street
   c. city, state, zip code
3. Check addresses - they must be correct before mailing
4. Stamps
   a. students should bring their own
   b. if they do not have a stamp, have them borrow one from a friend
   c. give unstamped postcards to classroom teacher

E. Meeting the Classroom Teacher

1. Bring cabin list and any questions you may have about their students
2. Avoid dwelling on petty problems or allowing meeting to become negative
3. Be mature and responsible

F. Rain or Snow

1. Safety rules
   a. no throwing ice or snow (people get hurt)
   b. do not eat icicles orsnow (stomach aches)
   c. no sliding (people get hurt)
   d. keep warm
      1. hat on head
      2. ponchos, boots
      3. plastic bags on feet
      4. clean, dry socks on hands
      5. try to stay dry
2. Snow play - see Snowy Days under "Teaching Tips" section

II. PREPARATION FOR ACTIVITIES

A. It is the Cabin Leader's Responsibility to Make Sure His or Her Cabin is Properly Prepared for Activities

B. Be on Time

1. Give 10 minute warning before leaving
2. Prod slow children
3. Arrive 5 minutes before activity starts
4. If your cabin is late, it can hold up the entire camp schedule

C. Check Everyone Outside Cabin before Departure

1. Proper shoes, long pants, socks
2. Jacket, sweaters, hats (morning, evening, bad weather)
3. Dress lighter for chaparral trail (hot)
4. Socks and shoes at all times

D. Foul Weather

1. Rain - ponchos, hat (heads must be covered)
2. Snow - boots, baggies, hats, ponchos, coats, gloves or socks
3. Equipment room - keep neat, cabin leader replace items properly
4. Remember that it takes students 10-15 minutes longer to get ready in snowy weather

III. HEALTH CARE

A. It is the cabin leader's responsibility to see that students remain healthy throughout the week. There is a nurse on duty to assist you with problems that occur

1. Be alert for signs of illness or injury
   a. overtired
   b. cold symptoms
   c. rashes or sores
   d. sunburn
   e. head injuries - report all to nurse
   f. accidents - report all to nurse
2. Steps to be taken
   a. have child lie down and rest, see if he/she can wait to see nurse
   b. have student check with nurse at next meal
   c. take student to infirmary if necessary; get someone to cover your cabin, tell your students where you are going
   d. call nurse, core staff or cabin leader in emergency
   e. never give child medication - have nurse administer medication
   f. report any injury to a staff member or a child to the nurse (for insurance coverage)

B. Rest Time

1. Time to recharge batteries = healthy, happier kids and staff
2. Very important to be consistent
3. 40 minutes total
   a. 20 minutes quiet - no talking - shoes off, lying down on their own bunks - reading, writing letters, or sleeping
   b. 20 minutes - quiet talking or games, preparing for next activity

C. Bed Time

1. The Outdoor School has a strenuous program, high elevation and thin air - getting enough sleep is very important
   a. lights out by 9:00 p.m., no talking (you may turn them off earlier and have quiet talking which the students enjoy)
   b. students should remain asleep by 9:30 p.m.; if not, you need to remain in your cabin until they are asleep
   c. wait until your cabin has been checked by the bedchecker before signing out
   d. inform students to turn on a light, in an emergency and wait for the bedchecker
2. Setting a quiet mood
   a. students enjoy hearing stories before 9:00 p.m. (no talking after 9:00) or singing quiet songs
   b. avoid activities that scare students - no ghost stories
   c. evening is a good opportunity to build group rapport with discussions (in good taste) or quiet games

3. Cabin leader bedtime
   a. on the first night of the week, all cabin leaders stay in their cabins with the students (this reassures students, helps prevent homesickness and establishes standards)
   b. on the following nights, cabin leaders may leave at 9:30 if their students are asleep
   c. cabin leaders may use the staff lounge or sign out of camp, returning by 11:45 p.m.
   d. each cabin leader must sign himself/herself in by 11:45 p.m. with the unit leader in charge
   e. cabin leaders will be in their own cabins by 12:00 midnight
4. Bed checks
   a. the bedcheckers report to the duty person (see your schedule) when leaving their cabin
   b. bedcheckers will walk through every cabin checking on the health and safety of the students
      1. use a flashlight pointed towards the ground to identify yourself; try not to wake students
      2. check temperature in the cabins (too hot or too cold)- check heaters to determine if working properly and that all personal belongings are placed a safe distance away
      3. see that walkways to restrooms and doors are cleared
      4. one student per bed
      5. windows open a crack (from the top)
   c. bedcheckers alternate walking around the outside of the cabins until 11:45 or until all staff are in bed
      1. watch for emergency lights
      2. watch for students keeping others awake
      3. watch for intruders or other potential problems
      4. if students are sick to their stomach place trash can near the bed, settle cabin, take name to nurse
      5. identify students who may need the nurse
   d. report to duty person after each check
   e. bedcheckers should cleanup the staff lounge and return to their cabins by 12:00 midnight

D. Possible Health Problems

1. Enuresis (bedwetting)
   a. sleep on bottom bunk
   b. take aside and discuss problem (let them know that often it doesn't happen while they are here but these things might help them)
      1. no liquids after dinner
      2. use restroom before going to bed
      3. cabin leader can wake them up when they come in at 11:30 or 11:45 so they can use restroom
      4. keep flashlight by bed so they can get up during the night
   c. if they have an accident
      1. don't make a big deal so other students are aware
      2. have everyone air sleeping bags out in sun and fresh air
      3. if occurs at night, can get extra sheets and blankets from infirmary
      4. let nurse know so she can get more sheets or clean ones, if needed

2. Students who take medications
   a. nurse will have medications in dining hall at meals
   b. nurse will deliver meds to cabins at bedtime
   c. the nurse will give meds to you with instructions if child takes it at other times during the day; you are responsible for seeing that the child receives the medicaiton
   d. please return empty med envelopes to the nurse
   e. do not give aspirin or any other medication to a student; refer them to the nurse
   f. students should not have any meds in the cabin; give them to the nurse if they do
   g. abbreviations that will help you: PRN - if needed
      H.S. - hour of sleep
   h. turn in any medications a student may bring in his/her suitcase to the nurse (this includes vitamins, aspirin, cough drops, etc.)
3. Students who should be on a bottom bunk
   a. sleepwalkers - SW
   b. students with epilepsy or seizures
   c. bedwetters (enuresis)
   d. handicapped
4. Headaches
   a. explain effects of altitude on their bodies (headaches, dizzy)
   b. best cure is lying down with feet up and rest, sleep if possible
   c. if still have headache in morning, see nurse

E. Personal Hygiene

1. Importance of health and safety
   a. main concern - arrive in good condtion, send home the same way
   b. cabin leader sets example, gives guidance
      1. dress properly, look sharp
      2. keep possessions neat
      3. dress appropriately for weather (bring own poncho)
2. Showers
   a. encourage showers on Tuesday, Wednesday, and Thursday (at least two per week minimum)
   b. when - during day
   c. methods - check to be sure they are taking showers
      1. tell them the times - let them decide
      2. let them sign up
      3. assign numbers
   d. hot water - 3 minutes ("submarine showers")
   e. encourage them to change in their own rooms to save time
   f. washing hair - must be dry before going outside
   g. blow dryers - use away from water, don't overload circuits (2 per cabin at a time)
   h. cabin leaders shower on off time so available to assist students
3. Teeth - brush at least once in the morning and at bedtime
4. Wash hands before meals and setups
5. Clothing
   a. casually check to see that students are wearing clean clothes
   b. wet clothes (shoes, towels, socks)
      1. don't let them put in suitcase or they will become mildewed
      2. hand up high to dry (not near heater)
   c. washing clothes - don't do unless extremely muddy or gritty (let dry and shake off dirt or soak in bucket 30 minutes with hot, soapy water)

d. bedtime
    1. wear clean clothes and explain why (perspiration and colds)
    2. clean boxers okay
    3. not to sleep in clothes worn during the day

F. Cabin Cleanliness

1. Importance
    a. learn responsibility and independence
    b. satisfaction from living in clean, neat surroundings
    c. chores are not for punishment but for group effort
    d. many visitors to the program
2. Cleaning
    a. organization
        1. when - mornings; cabin may need straightening later in day)
        2. can use charts, rotate jobs daily (see chart following page)
        3. attitude of cabin leader
            a. work with them, they respect it when you help do cleanup work too
            b. discourage arguing and grumbling, being happy and cheerful makes the time pass quickly
            c. encourage work to be done quickly and efficiently
        4. when leaving cabin; give 10 minutes warning and have them straighten up
    b. cleaning buckets
        1. learn where they're stored, pick up on Monday and return Friday
        2. spray showers - walls and floor, rinse
        3. use johnny mop on toilet only
        4. use rags for wiping sinks, mirrors
        5. keep trash liners when emptying trash
3. Cabin inspection
    a. keep your cabin clean and liveable at all times
    b. keep hallways clear, clothing away from heater(fires may start)
    c. turn down heat, lights off for conservation
    d. if you have a clogged toilet, pilot light out, or other maintenance problem, report it as soon as possible by filling out a maintenance slip (in office) and put on proper clipboard
    e. your cabin will be inspected daily using a form similiar to one of the forms on the following pages
4. Care of one's own possessions
    a. hang coats in closets
    b. clothes kept neatly (shelves, suitcases, drawers and/or closets) dirty clothes in suitcases, not piled in corner
    c. shoes neat (in closet or under bed
    d. towels on racks, not in suitcases
    f. have necessary equipment of cabins (keep in cabin - broom, dust pan, trash cans, hangers; check out weekly - cleaning bucket, rake, mops)
5. Discourage borrowing
    a. only with permission
    b. no practical jokes with belongings (expensive and personal property)
    c. do <u>not</u> borrow children's clothes, equipment (such as watches), etc.

CABIN INSPECTION SHEET

Name of Cabin Leader _____ Date _____

Number of Cabin _____ Room of Cabin _____

		EXCELLENT	MEETS REQUIREMENT	UNSATISFACTORY
OUTSIDE	Leaves raked away from cabins			
	Grounds - paper picked up			
	Porch clean			
INSIDE	Bunks made up neatly			
	Clothing hung up			
	Floor free of litter/clutter			
	Shoes lined up			
	Suitcases closed and put away			
	Shelves and towel racks neat			
	Trash emptied			
BATHROOM	Sinks and mirrors clean			
	Toilets and bathroom floor clean			
	Showers clean			
ENERGY	Lights off			
	Heat lowered			
	Window blinds open			
	Faucets turned off			
	Overall Appearance:			

Comments:

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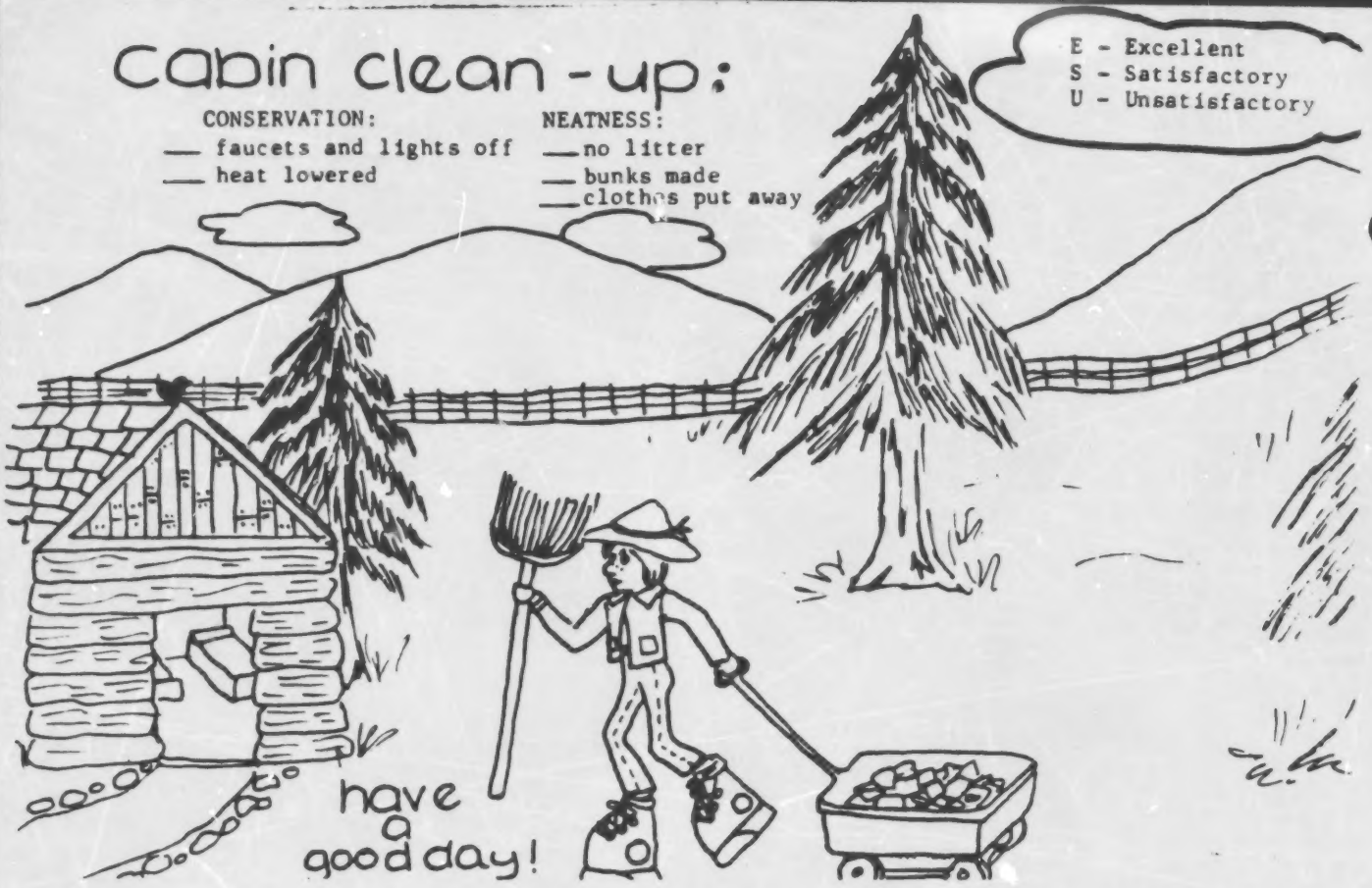
Cabin clean-up:

E - Excellent
S - Satisfactory
U - Unsatisfactory

CONSERVATION:
__ faucets and lights off
__ heat lowered

NEATNESS:
__ no litter
__ bunks made
__ clothes put away

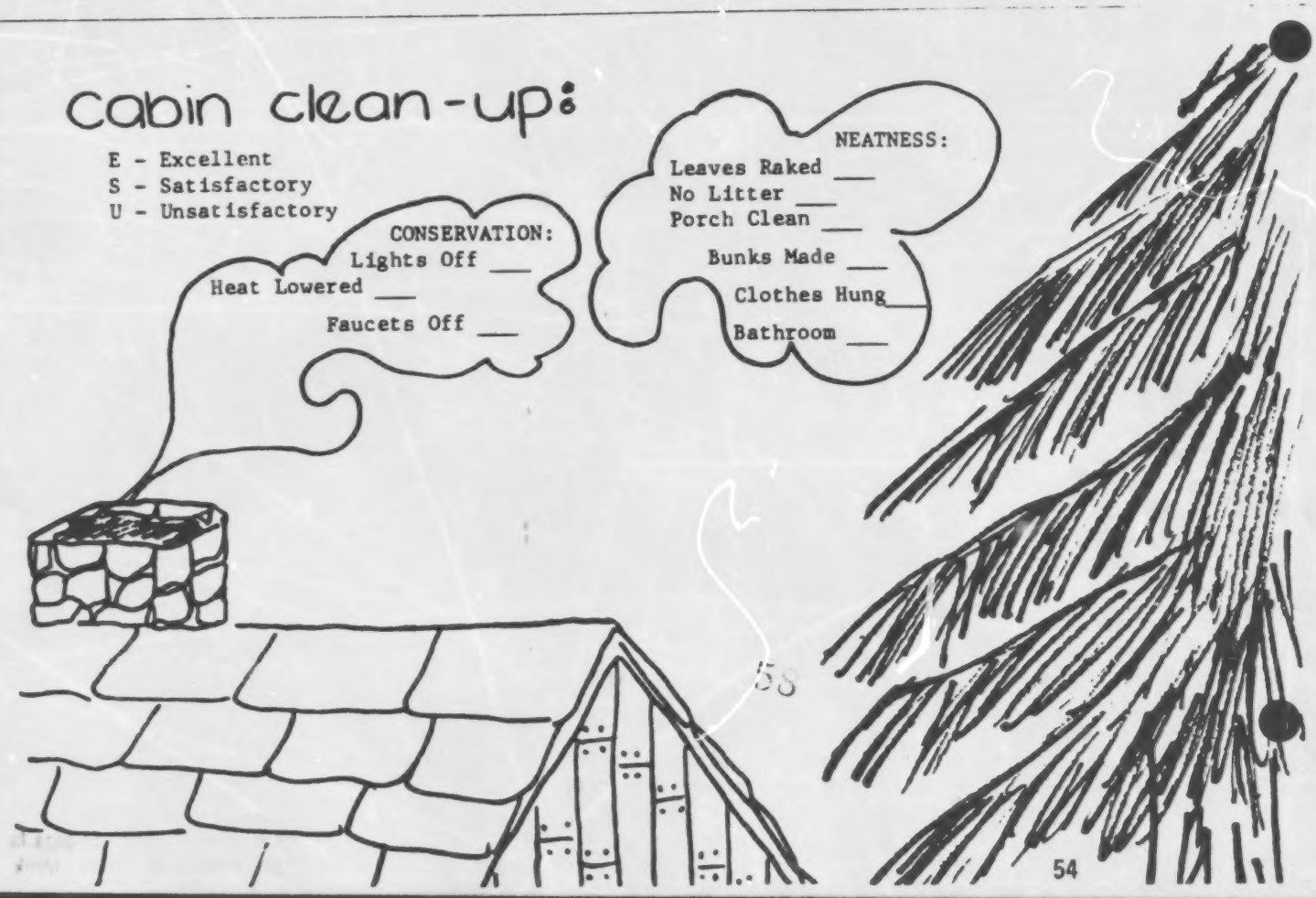


Cabin clean-up:

E - Excellent
S - Satisfactory
U - Unsatisfactory

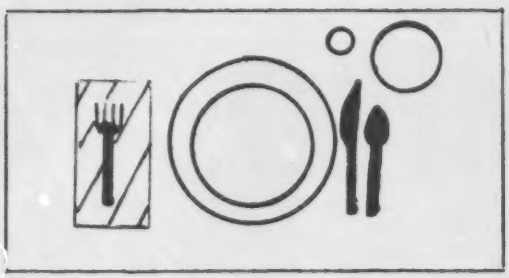
CONSERVATION:
Lights Off ___
Heat Lowered ___
Faucets Off ___

NEATNESS:
Leaves Raked ___
No Litter ___
Porch Clean ___
Bunks Made ___
Clothes Hung ___
Bathroom ___



8. Relations with cooks
   a. respect their working space, and stay out of the kitchen unless you have business there
   b. remember to thank them for good meals
   c. offer to help if you see they could use help in serving or returning food
9. Food
   a. there are four weekly menus that rotate
   b. all have been carefully planned with students likes and nutritional value in mind
   c. staff members sometimes get bored with repetition; refrain from expressing your views in front of students
   d. discuss any special dietary needs of yours with your acting principal
10. Dining room
   a. make clear introductions so all guests and students will feel comfortable
   b. observe the "moment of silence" politely before each meal
   c. be polite (use please and thank you) - spend at least two minutes expressing something positive about your day
   d. one person talks at a time - keep the volume "low" - converse with the people at your own table
   e. chew with your mouth closed
   f. put your napkin on your lap
   g. stress correct use of silverware (see sample table setting)
   h. pass food around the table to each person - do not reach across or in front of another person
   i. show appreciation for the cooks - take a "courtesy serving" of all foods - if you do not like something, please don't eat it
   j. don't complain about the food - express positive comments
   k. be aware of the importance of liquids and roughage in the diet for good health

SAMPLE PLACE SETTING



V. HIGHWAY RULES

A. Crossing the Highway

1. It is often necessary to cross and walk along the highway (Forest Home Blvd.) to reach study areas. The traffic is heaviest between 8:00 a.m. and 9:00 a.m., and between 4:00 p.m. and 5:00 p.m. The traffic usually travels very fast throughout the day.
2. Safety rules to be used by all campers and staff
   a. children will line up in a straight line parrallel to the highway and remain very quiet - there should be an adult at each end of the line if possible
   b. the children will look to the right, then look to the left and listen as the adult announces, "look to the right; look to the left, listen."
   c. the adult will announce, "no cars this way" - the second adult will answer, "no cars this way" - the adult in charge will then announce, "prepare to cross" - the children should then stand still, shoulder to shoulder
   d. adult in charge then commands, "cross" - the students and adult will then proceed in one straight line, swiftly (but not running) across the highway

B. Walking Along the Highway

1. The following safety rules apply to all staff and students when walking along the highway
   a. children will <u>walk</u> in a straight line along the highway with an adult in <u>front</u> (and an adult in the rear of the line, if there are two adults)
   b. children and adults will hike toward (facing) oncoming traffic
   c. when a vehicle approaches from the front, the adult at the head of the line will announce "car" - all the children will <u>stop walking</u> and move <u>away</u> from the highway and stand quietly - they will proceed after the car has passed

C. Icy and Snowy Weather

1. Keep children on uphill side of road when cars or trucks approach (cars and trucks will slide and skid down the hill)

VI. FRIDAY SCHEDULE

A. Our Agreement with Forest Home

1. We will be out of the cabins by 9:00 a.m. so they can begin cleaning and preparing for weekend groups
2. We will leave the cabins neat and clean, as we found them on Monday

B. Packing Up with Your Cabin Group

1. Start packing on Thursday afternoon; have all dirty clothes, extra shoes, etc. packed, leave PJ's and Friday clothes on top
2. You may need to wake your cabin group at 6:30 Friday to get everything completed before breakfast
3. Pack all gear, roll sleeping bags and carry to parking lot (one piece at a time) before breakfast
   a. cabin leader must keep group together and accompany them to the parking lot
   b. stack neatly in hard (suitcases) and soft (sleeping bags) piles near proper school signs
4. Clean cabin
   a. be sure acorns, sticks and rocks are placed outside of the cabin
   b. be sure paper trash is picked up off the floor and trash containers are emptied
   c. check for lost and found items in shower, under beds, under mattresses and on shelves
   d. return cleaning supplies, rakes and boots and rain ponchos to appropriate places
   e. turn off heaters and lights
5. Breakfast is at 8:00 a.m. - be on time!
   a. if you're running late, it's most important to be at breakfast on time; you can put luggage on porch and move it after breakfast
   b. if your cabin isn't clean, check with unit leader - we'll need to make arrangements with Forest Home for your cabin group to return after breakfast to clean it
6. Cabin leaders' personal gear
   a. you may leave it on the porch and move it later on your time off
   b. you may drive your car to your cabin to load and unpack; then immediately return your car to the parking lot

C. Friday Program After Breakfast

1. Will vary from camp to camp and from week to week
2. Friday schedule will usually include some of the following:
   a. ranger program
   b. classroom teachers meeting with students while cabin leaders and unit leaders have staff meeting
   c. square dancing, new games, and other all-camp activities
   d. evaluation hike with cabin leaders and unit leaders
   e. cabin leaders meet with own cabin group for ending activities
3. Cabins will be locked; plan to use public restrooms, camp buildings and outside areas for activities
4. Lunch is usually served at 11:00 or 11:30 - after lunch, cabin leaders take their cabin group to the restrooms, then load the buses
5. Cabin leaders depart around 1:00 p.m.

The mind of a child is the doorway to the future.

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TEACHING IN THE OUTDOORS

I. CLASSROOM PREPARATION

A. The classroom teacher puts a lot of energy into preparing his or her class for the Outdoor School, sometimes starting a year in advance; appreciation and understanding of their efforts can help you with the on-site teaching you'll be doing.

1. Classroom teachers meet with the Outdoor School Specialist about 2-3 months beforehand to go over the following items:
   a. curriculum preparation
   b. necessary forms
   c. cabin list
   d. on-site schedule
   e. background information for individual trails
   f. slide program for parents
   g. fund raising projects
   h. transportation arrangements
2. Classroom teachers spend a minimum of 3 weeks, 1 hour per day on classroom instruction related to the Outdoor School
3. After returning to the school, teachers review the learning and do follow-up activities and evaluations of our program

B. On the following pages, we have included the classroom materials used by visiting teachers, designed to provide uniformity in the preparation of all students visiting the Outdoor School. Be familiar with these concepts.

ORANGE COUNTY OUTDOOR EDUCATION PROGRAM

THE ENVIRONMENT IS A DYNAMIC SYSTEM INVOLVING CONTINUOUS CHANGE AND INTERDEPENDENCY

PART I

- MAJOR CONCEPTS -

ENVIRONMENT

ENERGY

INTERDEPENDENCE

CHANGE

APPRECIATION

THE ENVIRONMENT PROVIDES CONDITIONS FOR THE EXISTENCE OF LIFE.

COMPONENTS

1. An environment is all of the living and non-living things that affect the life of plants and animals at any point in their life cycle.

DISCUSSION/ACTIVITY

- *What things make up <u>your</u> environment; (your room, home, school, community?) Describe them.*
- *What factors make up <u>any</u> environment?*

Focus: Environments are defined by non-living (physical) factors and living (biotic) factors.

<u>Physical Factors</u> (Non-Living)

Sun: provides energy
Light - amount and intensity affects life
Heat - temperature (daily and seasonal extremes) affects life

Air: medium in which and on which airborne organisms live
a supply for consumption (birds breathe air, birds fly through air)
conditions - quantity and distribution affect life, currents, moisture, nutrients
affected by - pollutants and moisture content

Water: medium for aquatic life
requirement for living things for consumption, contains nutrients
conditions - quantity and distribution, currents (transport organisms and nutrients)
affected by - salinity, pollutants, dissolved gases.

Soil: medium for plants and animals
contains nutrients (chemical compounds) which are requirements for living things
affected by - temperature, moisture, salinity, wind, currents (movement)

Biotic Factors (Living)

Presence of plants and animals
- provide sources of food
- changes mediums on which organisms live (i.e. roots absorb water from soil, plankton release oxygen into the ocean)

Relationships between plants and animals
- food chain - producers (plants), consumers (herbivores, carnivores, omnivores) and decomposers (a plant or animal breaking down or feeding upon dead material)
- competition for - food, water, shelter, territory and breeding places
- symbiosis - a special dependency between two organisms
- population density - the number of plants and/or animals in an area (affects food supply)

- *What requirements from the environment do plants, animals, and humans have in common?*

2. Different environments are defined by the amounts and kinds of non-living (physical) and living (biotic) factors.

DISCUSSION/ACTIVITY

- *What combinations of factors make up an environment that you are familiar with?*

  Focus: Deserts - limited water supply, abundance of light, high temperatures
  Oceans - abundance of water, high salinity, limited light
  Coniferous Forests - dense growth, snow in winter, enough water to support growth of trees, higher elevations

- *How could the presence of a particular plant or animal be an indicator of a specific environment?*

  Focus: Adaptations of plants and animals typify the environmental conditions in which they live (i.e. frogs have a skin which requires the moist conditions of a streamside (Riparian) environment).

3. People become aware of the environment through their learning system.

DISCUSSION/ACTIVITY

- *How do you learn about your environment?*

Focus: People discover and absorb information through the senses, store and process information in the brain, and produce information through the use of the muscles.

Senses

Sight - observe a plot of ground for evidence of life
Hearing - listen for sounds in a quiet spot in the forest
Touch - compare the texture of three leaf specimens
Smell - smell 3 different leaves and compare the various odors
Taste - chew 3 different edible substances and describe the flavors (i.e. salt, sugar, lemon, wintergreen, mint, onion)

Brain

Analyzes, applies, and synthesizes

Muscles

Reflect and demonstrate behavior

- *What things in your environments (home, school, community) make you feel happy? Why? What things make you feel sad? Why?*

- *How can you increase your enjoyment of the environment?*

Focus: Extend your limits (tolerances). Try something new - taste an edible plant, climb a mountain, explore a stream!

Take time to enjoy the simple things - watch a squirrel, listen to a bird song, examine a tiny wildflower.

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LIFE IS SUSTAINED BY THE DYNAMICS OF ENERGY

COMPONENTS

1. All life forms require energy. Personal energy levels are increased through:

Movement
  Muscular development through activity
Clean air
Sufficient amount of rest
Proper diet
Involvement
  Involvement with the environment increases your potential for accomplishment
Learning
  The "need to know" is fulfilled through information gathered from the environment by the senses
Sense of well-being
  Being comfortable in your surroundings, using your talents to identify with success, giving and receiving help

DISCUSSION/ACTIVITY

- *How do you usually feel after hiking on your first day in the mountains? (Short of breath ? Why?)*

  Focus: At higher altitudes personal energy is expended adjusting to thinner air.

- *If you stay up too late and don't get enough rest, how will this affect you the next day?*

- *How will your involvement at the Outdoor School be different than what you do at your regular school?*

  Focus: Possible fears - new foods, separation from family and/or best friends
  Possible alternatives to fears - talk it out, get help from a friend, parent, teacher, Outdoor School staff member.
  Possible anger - hitting someone, foul language, gossip, destruction of property
  Possible alternatives to anger - play an active game, split wood, shovel snow, rake leaves, build and repair trails

- *How will you get involved with your new environment at the Outdoor School?*

  Focus: Homesickness is uninvolvement with your present environment and lowers your personal energy level (feel ill, unhappy, uncomfortable; experience a low-energy level)

  Negative feelings can be changed to positive feelings through the expenditure of energy in an activity (movement). To increase your personal energy level, get involved in a positive activity.

2. Energy is the basis for all changes in the environment. Energy exists in many forms.

   DISCUSSION/ACTIVITY

   - *What kinds of energy are there?*

     Focus: EXAMPLES

     Chemical - found in:
     - Food - photosynthesis changes radiant energy to chemical energy
     - Gasoline - chemical energy changed to mechanical energy through combustion
     - Batteries - chemical energy changed to electrical energy

     Electrical - commonly known as electricity
     - Generators change mechanical energy to electrical energy

     Radiant
     - Solar (seen as light energy, felt as heat energy)
     - Ultraviolet rays
     - X-ray
     - Gamma Ray
     - Radio Waves

     Heat - released by burning and friction
     - Burning changes chemical energy to heat
     - Friction changes mechanical energy to heat

     Nuclear
     - The sun produces energy through fusion reactions (nuclear energy is changed to radiant and heat energy)

   - *What are some sources of chemical energy in your home?*

     Focus: food, natural gas, wood

- *What kind of energy is exhibited in the process of erosion?*

  Focus: mechanical (wind and water)

- *How is water used as a source of energy?*

  Focus: It turns turbines which generate electrical power. Tidal action is being investigated as a source of energy to generate power.

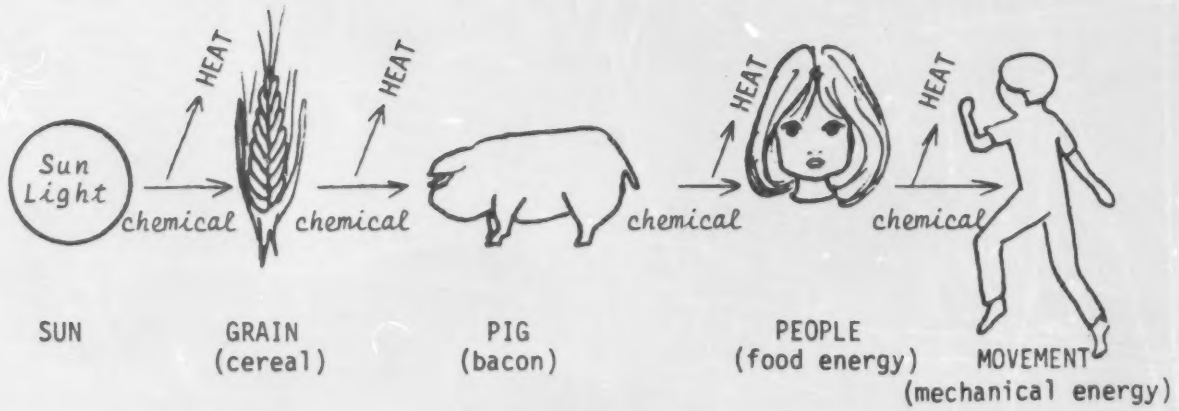
3. Energy flows and is transferred through systems and cycles in nature. Each time energy is transferred there is a loss of energy to a particular system, usually in the form of heat.

DISCUSSION/ACTIVITY

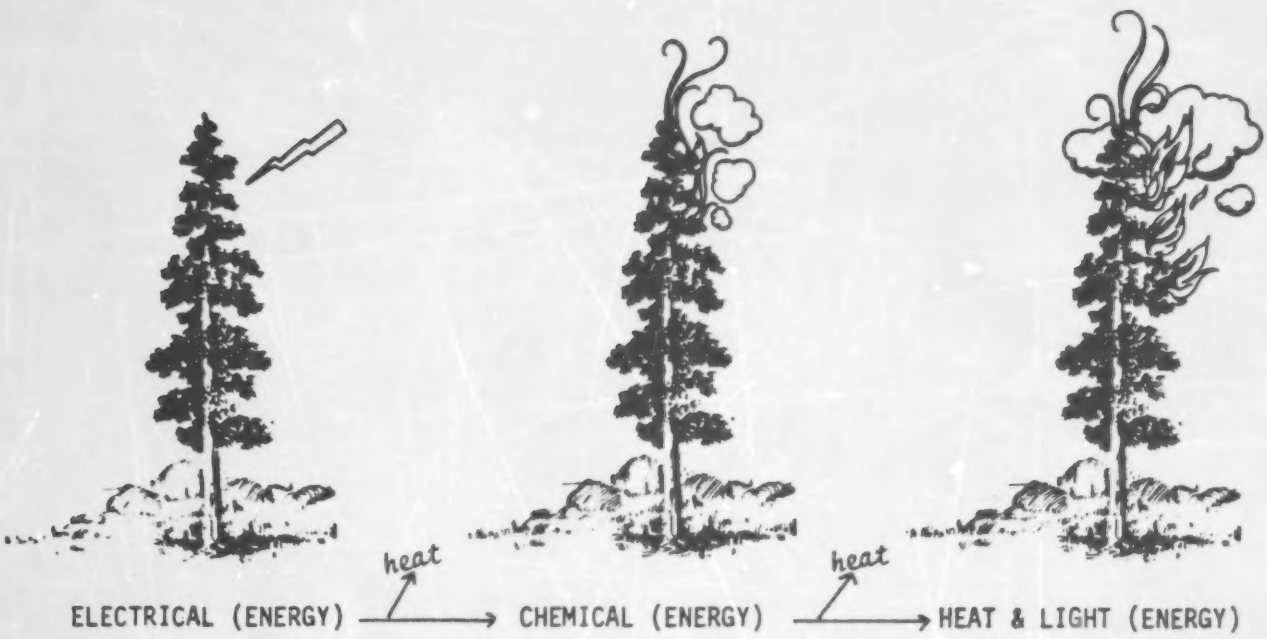
- *How do you use the sun's energy when you eat breakfast?*

  Focus: A plant (cereal) uses the sun's energy to make plant tissue. Humans eat a plant, or part of an animal that ate a plant, thus transferring chemical to mechanical energy.

FOOD CHAIN



- *What type of energy is transferred when lightning strikes a tree?*



4. When matter is changed to energy or energy to matter different environmental effects result.

DISCUSSION/ACTIVITY

- *What personal and environmental consequences are involved when you must choose an efficient means of transportation? (walking, bicycle, bus, car)*

  Focus: The bicycle is the most efficient mode of transportation in terms of energy. Less energy is expended than when walking a similar distance.

  Burning gasoline powers automobiles. However, heat is produced which deteriorates the engine and many pollutants are given off.

- *What energy source has few harmful environmental effects? Why is it not widely used?*

  Focus: Solar energy is not commonly used today because efficient and inexpensive means of gathering, storing, and transferring this energy have not been fully developed.

The sun is the earth's ultimate source of energy. The Indians of Mesa Verde were among the early users of passive solar energy. Today solar power is used to heat water in home swimming pools and to supplement the amount of hot water provided by water heaters in commercial and residential buildings. Other practical uses are being investigated by many research installations. Much energy can be conserved when buildings are designed to use solar energy for heating and cooling.

- *What environmental consequences would you have to consider in choosing between the construction of a nuclear plant or a coal-burning power plant?*

  Focus: People must carefully evaluate the use of energy (i.e. nuclear reactions produce electrical energy but leave radioactive wastes. A coal-burning power plant produces electical energy but pollutes the air. Strip mining to obtain coal removes top soil, promotes erosion, prevents plant growth and affects habitats and survivorship of animals.

5. Commonly known sources of chemical energy (i.e. wood, fossil fuels, coal, petroleum and gas) are limited and decreasing, but the use of energy is increasing. Therefore conservation practices and the discovery of alternate sources are critical if requirements for energy are to be met in the future.

DISCUSSION/ACTIVITY

- *Name several ways you can conserve energy in your home or in your cabin?*

  Focus: Decrease the use of appliances, electricity, air conditioning, heat and gas. Clean filters, insulate your home, close off rooms not in use, check for leaky faucets.

- *What alternative sources of energy are being investigated that you know about?*

  Focus: Solar, geothermal, fusion, wind, tidal action

ALL THINGS IN THE ENVIRONMENT ARE INTERDEPENDENT AND INTERACT WITH ONE ANOTHER

COMPONENTS

1. As people demonstrate increased understanding and respect for all forms of life, positive impact on the environment will be realized.

DISCUSSION/ACTIVITY

- *Why do you think the environment might improve as people learn to communicate and work together effectively?*

  Focus: Individuals and groups of people working together have the capability to take an active role in solving environmental problems (i.e. "Friends of the Back Bay" saved this rich Newport Beach estuary). Wholesome relationships with people will promote wholesome relationships with the environment.

- *What environmental group have you heard about and what do they want to accomplish? Why?*

- *What ways can you improve the quality of life in your neighborhood?*

  Focus: Pick up trash, care for plants, keep pets in own yard, clean up after pets, noise control during early or late hours.

- *Why should you treat all creatures humanely?*

  Focus: Respect for nature, for life (including humans). Removing one part of a food chain will affect all of the other parts.

2. Personal health is largely dependent upon the condition of one's immediate environment.

DISCUSSION/ACTIVITY

- *How does smog affect your health, your activities?*

  Focus: People cannot be involved in active sports on extremely smoggy days without danger to health.

- *In what way(s) could stream pollution at the Outdoor School affect you?*

  Focus: People cannot drink polluted water without danger to health.

- *Why does trash have a detrimental affect on health, living creatures, and environmental beauty?*

  Focus: It is a breeding ground for pests carrying disease, can cause injuries from broken fragments and is visibly offensive.

3. The use of natural resources has an impact on the immediate and world environment.

   DISCUSSION/ACTIVITY

   - *What things can <u>you</u> do at home to conserve resources? At school?*

   - *How could the impact of your actions in the natural environment affect the activities of others?*

     Focus: Soap in a stream affects fishing and kills insect life.
     Not staying on a designated trail might kill plant life and cause erosion.
     Trampling a fragile marsh or meadow could destroy it for others.
     Improper toilet habits.

   - *How could an oil spill on the East Coast affect us on the West Coast?*

     Focus: (i.e. shellfish killed, price goes up, ports closed, shipping disturbed)

     An accident affecting the environment in another part of the world may also have dramatic implications to certain groups of people or to you personally.

   - *How has the oil crisis affected you? Your parents? Your neighbors? Your community? Your state? Your nation?*

     Focus: Social issues can affect the demand for resources, personal and commercial utilization.

4. All forms of life are involved in a dynamic interplay with the environment expressed as "The Balance of Nature." Some forms of life will be affected more than others if the Balance of Nature is disturbed.

DISCUSSION/ACTIVITY

- *How do things in nature survive changes in the environment?*

  Focus: A species that is able to withstand or adapt to the changes will survive and reproduce. Others will leave, diminish or die.

- *Why are complex systems (i.e. a forest) often the most stable?*

  Focus: A system with many components can adjust to the removal of one species or element more easily than a system with only a few components.

- *Why is it important to protect endangered species?*

  Focus: We do not know the consequences that extinction will bring to a system. We do know that extinction of a species would reduce the number of components and might diminish the chances of the system adjusting to future change.

5. Interactions in the environment lead to new properties, groupings, or relationships that are not apparent as individual components.

DISCUSSION/ACTIVITY

- *What interactions in the environment have you observed? Describe the components.*

  Focus: Organism - Components of a living cell interact to change the properties of a cell and then cells interact to form a new living thing.

  Symbiosis - Algae and fungi interact to form lichen. (Lichen can live in areas where algae or fungi can't survive alone.)

  Habitat - All of the environmental conditions and requirements for life needed by a species.

  Community - Outdoor School is a mini-community. (Each person functions as a citizen and utilizes uniqueness and creativity to affect the total experience for all.)

  Ecosystem - Plants and animals interacting in a given environment.

  Solar System - The motion and path of celestial bodies are related to each other through gravitational attractions

- *How does the Outdoor School change as the participants change?*

  Focus: The Outdoor School staff must adjust to different levels of preparation, abilities, interests, talents, values, and attitudes of the visiting students.

THE ENVIRONMENT IS IN CONTINUOUS CHANGE.

COMPONENTS

1. Like all things found in the environment, people have a great ability to change.

DISCUSSION/ACTIVITY

- *Give some examples of how people have adapted to diverse climatic conditions and environments.*

  Focus: People can live successfully in the arctic, in the desert and in the tropics. People can free dive to 285 feet (world record) below the surface of the ocean without life support systems and can live in elevations as high as 12,000 feet.

- *What adjustments will you have to make when you go to the Outdoor School?*

  Focus: Altitude, new foods, different daily routine, new learnings.

- *What could you do before the trip to make these changes easier for you?*

  Focus: Get plenty of rest, increase physical fitness, learn new vocabulary words!

2. People have the ability to dramatically effect change in the environment.

DISCUSSION/ACTIVITY

- *What will you do to preserve the quality of the natural environment? What can we do?*

  Focus: Positive actions:

  Wildlife protection
  Preservation of wilderness
  Energy conservation
  Pollution-emission control
  Water purification

- *What have we done to destroy our natural resources?*

  Focus: Possible negative actions:

  Strip mining
  Destruction of natural estuaries
  Sewage outfalls along our coastline
  Baby seals killed for fur
  Whaling
  Pesticides

- *Why is it so important to preserve the quality of the natural environment?*

  Focus: The wilderness is the life support system for the cities. A city depends upon outside sources for food, water and oxygen.

- *What should you consider before making a change in your environment?*

  Focus: Consequences? Value Judgements, Cause and Effect, "Think before you act" (i.e. use of pesticides: snail bait protects plants but is also poisonous to household pets and babies!)

3. The environment is composed of continuously changing particles of matter. Matter is any material substance that occupies space and has weight.

DISCUSSION/ACTIVITY

- *How do changes take place in the natural environment?*

  Focus: EXAMPLES:

  Chemical - weathering, decomposing
  Physical - volcanism, earthquakes, folding, erosion mountain building
  Biological - natural selection process adaptability of a species insect metamorphosis

- *What conditions would promote these changes?*

  Focus: temperature, water supply, fire, terrain, soil, salinity, sources of energy, pollutants (i.e. Ponderosa Pine trees are dying from the smog. However some species of pine can survive the smog and will continue to survive through selection process and their adaptations.)

4. Nature is composed of cycles. Many changes are observed in recurring events.

DISCUSSION/ACTIVITY

- *What are some of nature's cycles?*

  Focus: Water Cycle - (Riparian)
  Soil Cycle - (Forest)
  Rock Cycle - (Geology)
  Life Cycle - (Riparian)
  Carbon Dioxide/Oxygen Cycle - (Forest)

See Trail Information for Diagrams

- *How do we know that these cycles exist?*

  Focus: Observe and record data over a period of time. Study the assembled information to determine if the events are recurring in a predictable manner.

- *Why can many changes in nature be predicted?*

  Focus: Existence of natural laws (i.e. "Law of Cause and Effect"; "Gravity")

- *What discards can you recycle? Why is recycling important for the environment?*

  Focus: Conservation/Economics:
  materials are put back into use
  new technology is developed

- Focus: Conservation/Respect for Nature:
  wise use of resources and product.
  concern for beauty in the environment

APPRECIATION OF BEAUTY AND ORDER IN OUR ENVIRONMENT IS ENHANCED THROUGH FIRSTHAND EXPERIENCES.

COMPONENTS

1. Experiencing nature provides a release from the pressures of society and a return to ones' basic place "in harmony with nature."

   DISCUSSION/ACTIVITY

   - *What event in nature has affected you in a positive way? How did you feel?*

     Focus: A sunrise, falling snow, a waterfall.

   - *When have you felt that you were part of the environment? Describe your feelings.*

     Focus: People state that they "feel better" physically and emotionally after spending time observing and being involved with the unique, awe-inspiring objects in nature: an icy tumbling stream, a delicate wild flower, subtle shadings of a desert sagebrush, a hawk in flight.

2. Experiencing the contrasts, variety, order and beauty found in all natural environments helps people to be more receptive and enthusiastic to new learnings.

   DISCUSSION/ACTIVITY

   - *What delicate patterns in nature have you observed (i.e. veins in a leaf, a spider's web)? Why did you choose your example?*

   - *What are some other examples of repetition and order in nature?*

     Focus: Colors, textures, arrangement of leaves, branches, patterns, designs.

   - *How has experiencing a new environment changed your outlook?*

     Focus: Looking at a patch of grass from "insect eye-level" and observing "life" in detail can change your feeling about your backyard. A day at the tidepools examining marine life can make studying science more interesting.

- *How has experiencing a new environment helped you to understand another point of view? (An individual or group united over an environmental or community issue.)*

  Focus: Visiting Mineral King in the Sierras might help you to understand the efforts of the Sierra Club to preserve it.

3. People react differently to the objects and events in their environment.

   DISCUSSION/ACTIVITY

   - *How do <u>you</u> feel when you . . .*
     - *. . . see a tree "bursting" with blooms?*
     - *. . . experience the ground shaking as a result of an earthquake?*
     - *. . . observe a "fantastic" sunset?*
     - *. . . hear thunder rumble close to you?*
     - *. . . hear the roar of surf?*
     - *. . . see a charred hillside where a forest once stood?*
   - *Why do you like to own beautiful objects or attend special events?*
   - *How do people in other cultures respond to their environment in special ways?*

     Focus: (i.e., the Aztecs were sun worshippers; Orientals revere nature, as seen in their gardens and art work.)

4. People are <u>inspired</u> through involvement with the environment and may create expressions of harmony and beauty in music, art, literature, and movement (dance, drama, sports, games)

   DISCUSSION/ACTIVITY

   - *How do you feel when you watch a "terrific" dancer, gymnast, or soccer player? Why?*
   - *What is inspiration?*

     Focus: An influence; something or someone that motivates or produces strong feelings (i.e. the strength, beauty and dignity of a majestic redwood may <u>inspire</u> a person to create a poem, drawing, song, etc.)

FOCUS FOR THE OUTDOOR SCHOOL WEEK

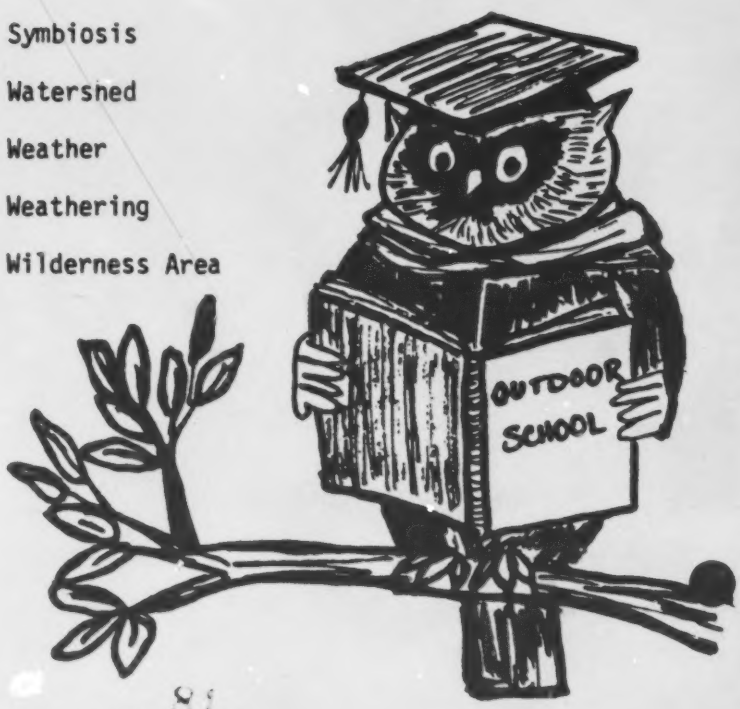
- *WHAT DO YOU HOPE TO GET OUT OF THIS WEEK AT THE OUTDOOR SCHOOL?*
- *WHAT WILL YOU DO PERSONALLY TO MAKE THE OUTDOOR SCHOOL EXPERIENCE A POSITIVE ONE FOR YOU AND ALL PARTICIPANTS?*

FOCUS: ENJOYMENT, NEW LEARNING, NEW FRIENDSHIPS, ENTHUSIASM, NEW OUTLOOK, ENHANCEMENT FOR ALL STUDENTS AND STAFF ATTENDING THE OUTDOOR SCHOOL

PART II

Essential Vocabulary

Adaptation
Aquatic
Balance of Nature
Chaparral
Chlorophyll
Conservation
Deciduous
Decomposer
Diurnal
Dormant
Ecology
Ecosystem
Environment
Erosion
Evergreen
Food Chain
Forest
Geology
Habitat
Igneous Rocks
Interdependence
Metamorphic Rocks
Metamorphosis
Mineral
Natural Resources
Nocturnal
Nutrients
Parasite
Photosynthesis
Pollination
Predator
Prey
Riparian
Rock
Sedimentary Rock
Soil
Symbiosis
Watershed
Weather
Weathering
Wilderness Area



PART III

Social Expectations

Please use the following topics for group discussion.

Group Behavior

- Establish personal goals for trip and discuss in class (role play if possible.)
- Show respect for all visiting classroom teachers and Outdoor School Staff (learn their names). Be good listeners.
- Be on time for your hike; be dressed appropriately for weather conditions, don't make others wait for you.
- Show respect during the flag ceremony or during the "moment of silence" in the dining room.
- Show care for Outdoor School property and equipment (careful use will give all students the opportunity to enjoy the equipment and materials provided for the school year).
- Accept the quantity of equipment (a chance to share rather than to complain).
- Be a good sport - exhibit a team spirit of cooperation (share the credit or blame).
- Be considerate of the rights and feelings of others; right to privacy, right to state ideas regarding differences in sleeping, eating and personal habits.
- Control negative emotions - don't let emotions control you! (If you cannot solve a problem alone, get help from your Cabin Leader, Teacher, or Outdoor School Staff member.)
  Anger - exercise and games are good ways to get rid of anger.
  Fear - talk over your problems with a friend or staff member to help relieve your fears.
- Share positive emotions: acceptance, cheerfulness, enthusiasm, participation.
- Assume responsibility and consequences for behavior which will affect the total experience for everyone.

Cabin Living

- Put forth a positive effort to get along with cabin mates (rumors are destructive).

- Accept changes pleasantly - be open to compromises. Use constructive suggestions.

- Accept your share of the work cheerfully, keep your word, become more responsible; when people learn that you are dependable, you will earn more privileges.

- Be aware of the importance of a good night's sleep for all students and staff so that everyone can fully participate in all of the activities.

- Accept the limitations of the physical facilities (i.e. take short, fast showers to save hot water; keep personal belongings orderly to avoid clutter and accidents).

- Show respect for and careful use of belongings of classmates and/or staff members.

Trail Manners

- Give your attention to the Trail Teacher.

- Be courteous to members of your trail group (listen when they are talking, speak one at a time).

- Walk, don't run - take time to observe the natural environment and enjoy the activity.

- Be observant of your surroundings as you hike.

- Stay on the trail, do not cut switchbacks.

- Stay within your boundaries, do not wander away from your group - stay within sight of your group leader during an activity.

- Do not throw anything, especially rocks.

- Do not use a walking stick.

- Do not take plant samples or anything living from the environment without permission.

- When walking on a trail do not shuffle your feet (kicking dust), and be careful to hold branches so that they do not strike the person following you.

- Be courteous to other groups passing by or using the trail you are on.

- Observe safety rules when crossing the highway with your trail group.

- Leave the natural environment better than when you arrived. (Our survival depends upon our ability to minimize the negative impact on the environment.)

II. ORGANIZATION ON TRAILS

A. Four Study Areas - Chaparral, Riparian, Geology, Forest

1. A classroom teacher is in charge of a hiking group of approximately 25-30 students
2. One of the Outdoor School staff members will accompany the hiking group (see weekly schedule)
3. Introduce yourself to the teacher - ask if he/she wants you to lead or follow their group
4. Help divide the students evenly between the classroom teacher and the Outdoor School staff member - each adult will teach the trail to their small group
   a. the more heterogeneous your group, the more successful (boys and girls, mixed schools)
   b. suggestions for counting off - 1, 2, 1, 2
      first 6 boys, first 6 girls
5. The staff member will serve as an aide in the classroom and will stay within five minutes of the classroom teacher throughout the hike
6. The staff member will return with a student or return for help, if necessary
7. The outdoor school staff member will follow the directions of the supervising teacher - be friendly and helpful
8. Unit leaders, naturalists, and acting principals may serve in the place of a classroom teacher, if necessary
9. Cabin leaders must be accompanied by a certificated person, unit leader or naturalist on all trail activities that go beyond the camp boundaries for insurance purposes
10. Classroom teachers and cabin leaders must take a first aid kit on each hike

B. Evening Study Activities (Star Study, Night Hike)

1. Unit leaders will help organize the evening activities by dinner time and arrange details with cabin leaders
   a. where each cabin leader is going
   b. equipment needed
   c. campfire, slides, marshmallows, other plans for entire unit group
2. Each cabin leader teaches their own cabin group
3. Classroom teachers or other visitors may join your group; be friendly and accommodating
4. Be sure your group returns to your cabin around 8:30; no later than 8:45 p.m.
5. You must stay within the camp boundaries unless accompanied by a certificated person, unit leader, or naturalist
6. Take along a flashlight and first aid kit for emergencies

C. Safety on Trails

1. Do not drink stream water (checks by the Health Department have indicated that it is not safe - consumption may cause stomach aches or other medical problems); use canteens
2. Always carry a first aid kit
3. Stay close to the classroom teacher

CHAPARRAL TRAIL

RELATED LEARNINGS

Ecosystem

The Chaparral environment is an ecosystem where plants, animals and non-living things interact. The Chaparral Trail provides an opportunity for students to observe and study the interdependent components of this ecosystem.

Slope Effect

Chaparral occurs at this elevation mainly on south facing slopes. This is because the orientation of the sun gives south facing slopes significantly more light and heat than north facing slopes. This causes the generally hot, dry conditions that support the Chaparral community.

Limiting Factors

In any environment there are physical factors which determine the type of plants and animals that can survive there. In the Chaparral some limiting factors are steep rocky terrain, small quantities of water and lack of nutrients.

Adaptations

Plants have developed ways to adjust to their environment. The Chaparral environment is hot, dry and usually contains poor soil. Types of adaptations include: small, light colored leaves, woodiness, toughness, deep roots in search of water, leaves with upward turned tips (this ; not this) and thick waxy coating on leaves.

Symbiosis

Symbiosis is a special relationship between two organisms. In the examples taught at Outdoor School, the relationship is one of mutual dependence which is beneficial to both. The example used in the Chaparral is that of the Yucca and the Pronuba (or Yucca Moth). The Yucca Moth lays her eggs in Yucca flowers and in this process pollinates the flowers. The moth provides the only means of pollination for the Yucca flowers and these flowers are the only place where the moth will lay eggs.

Fire Ecology

The hot, dry environment of the Chaparral is susceptible to frequent fires. As a result, fire is an integral part of the ecosystem. Many plants,(i.e., Chamise and Black Sage) have volatile oils in their leaves which burn easily. These oils seap into the ground and prevent new plants from growing until chemically

changed by fire. Many seeds germinate after a fire (i.e., Buckwheat, Manzanita). Some plants,(i.e., Chamise and Manzanita) exhibit crown sprouting after a fire. This rapid regrowth appears from an underground crown or root burl. The Chaparral has adapted to fire so well that it will remain a healthy community even if it burns as often as every twenty years.

Erosion

One value of the Chaparral is the prevention of erosion (a wearing away of earth) in areas too severe to support any other plant life. The steep slopes and poor soil on the Chaparral side erode heavily where the plants are not present.

Habitat

A habitat is a region where all requirements for life exist for a particular species of a plant or animal. Knowledge of an animal's habitat identifies the environmental conditions that must be present wherever that animals is found. For example, Big Horn Sheep are found on the steep, rocky slopes with sparse vegetation at the head of our canyon. Habitat protection is important for the preservation of our wildlife.

Man's Impact

Whenever people enter an area they have an impact on that area. The nature and degree of impact depends upon how many people enter an area and what they do while they are there. In our Chaparral the impact has been mainly soil compaction, erosion and littering along the trails. The Chaparral is on National Forest Land and is protected from other activities (i.e., construction or hunting) which could be detrimental to the environment. People who come to the Chaparral to observe and enjoy it have the least impact. They can come to the Chaparral, leave little evidence of their visit, and still depart enriched.

SUGGESTED ACTIVITIES

Techniques of Hiking

The Chaparral Trail is long, involves some elevation gain and has a few uneven and steep portions. Inform students about proper ways to negotiate the trail. When walking uphill they should try to walk as normally as possible; heel-to-toe is less tiring. When walking downhill or on uneven ground they should choose secure areas for their feet, and avoid loose rocks. When hiking on trails with switchbacks, they should not take shortcuts. Shortcuts cause unnecessary erosion, and are more tiring than hiking along the regular trail.

Animal Evidence Investigation

Many signs of animals can be seen along the Chaparral Trail. Examples are: wood rat nests, sapsucker marks on Mountain Mahogany, ground nesting wasp holes, gnawed pine cones, various animal tracks and scat. Look for these and other signs as you hike the trail. This evidence can be used to learn about habits

of the animals. For example, scat can be identified and a closer examination can reveal what the animal ate. Often the animals themselves can be seen. Birds likely to be seen are: the Western Bluebird, Scrub Jay, Dark-Eyed Junco, Mountain Quail and Red-Tailed Hawk. The Western Fence Lizard and the Alligator Lizard are the common reptiles seen on the trail. The mammals are mainly nocturnal and seldom observed.

Soil Temperatures

Record soil temperatures at different locations (sun and shade), in different colors of soil, and at different depths. Discuss factors that could influence the results and the effects of plants and animals. Discuss soil as an insulator. (Soil temperatures remain fairly constant day and night below the surface.)

Soil Compaction

Soils usually have a structure which include a certain amount of space between the particles. Soil can become compacted when animals (man included) repeatedly travel over one area of ground. This destroys the structure and diminishes or eliminates the air spaces. Trails are ideal examples of compaction. This activity includes comparing the amount of compaction on and off the trail, and the rates of water percolation on and off the trail.

Transpiration Experiment

Plants growing in direct sun tend to lose water faster than those growing in the shade. This water loss occurs through pores in the leaves and is called transpiration. Use plastic bags to wrap leaves of one type of plant in the sun and one in the shade. Good plants to use are the Canyon Live Oak and the Scrub Oak. When wrapping the leaves, make sure you have the same number of leaves in each bag and that the bags are airtight. Be sure to choose a site that you will return to later in the hike because it takes at least 20 minutes to get useful results. Return and observe the plastic bags. Any water contained in the bags is water lost by the plant. Which plant is losing the most water? How does the location of a plant affect the loss of water? After the experiment record your observations then remove the plastic bag.

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PLANTS

Pressed specimens of these plants and additional information about them are available at Forest Home.

Buckthorn (*Ceanothus cordulatus*)

A shrub with pale green stems and leaves and stiff spiny branches. Buckthorn is a favored food of deer who simply strip off the leaves rather than eating the branches.

Chamise (*Adenostoma fasiculatum*)

A tough shrub with very small rounded leaves. It is well adapted to fire with volatile oils in its leaves and the ability to resprout from a root crown or burl after a fire. It is one of the most abundant plants in the Chaparral, especially at lower elevations.

Manzanita (*Arctostaphylos pringlei*)

This shrub is easily recognized by the smooth red bark, one of the reasons its wood is prized for decorations. Manzanita is the Spanish word for "little apple." This refers to the small hard fruit which was eaten raw and made into a beverage by the Indians and early settlers. The berry must pass through an animal's digestive system or go through a fire before it can germinate. Manzanita has the ability to resprout after a fire.

Mountain Mahogany (*Cercocarpus betuloides*)

This is one of the "trees" of the elfin forest. It is taller than most of the Chaparral shrubs with distinctive white bark and upturned leaves.

Prickly Pear Cactus (*Opuntia basilaris*)

Like most cacti this plant has thick fleshy stems protected by spines. These stems or pads are edible when young and are sold in some markets under the name Napalitos. The purple fruit, called cactus apples, are also edible after removing the small spines or "no-see-ums" and peeling them.

Rabbit Brush (*Chrysothamnus nauseosus*)

This hardy plant is found in desert and sagebrush country as well as in the Chaparral. It has light green stems, tufts of yellow flowers, and small thin leaves that drop in the winter. This makes it one of the few deciduous plants in the Chaparral.

Scrub Oak (*Quercus dumosa*)

A shrub with tough, prickly, dark green leaves which protect the acorns from being eaten. The acorn caps usually remain on the branches long after the

acorns have dropped. The acorns were eaten by the Indians who prepared them by leaching out the bitter tannins and grinding them up. Scrub Oak is often considered to be the namesake of the Chaparral since "Chaparro" is the Spanish word for scrub plants similar to this oak.

White Sage (*Salvia apiana*)

A very aromatic member of the Chaparral with soft, light, gray-green leaves. The plant can be used as a spice in cooking, much like the sage in turkey dressing. The Wood Rat (or Pack Rat) lines its nest with White Sage leaves as the strong odor prevents predators from detecting the animal by its smell. The Indians used White Sage to mask their scent while hunting.

Wild Buckwheat (*Eriogonum fasiculatum*)

A low growing plant with dense heads of white flowers that turn red with age. This is not the buckwheat of pancake and cereal fame, but the Indians ground up the seeds to make flour.

Yerba Santa (*Eriodictyon trichacalyx*)

An aromatic plant with shiny green leaves. Yerba Santa is the Spanish word for holy herb. Other names for this plant are "Indian Chewing Gum" because the Indians chewed it to quench their thirst on long marches, or "Tutti Frutti" plant because it smells like "Tutti Frutti" gum. Tea made from the leaves was used by early settlers to treat headaches and sore throats. Today, Yerba Santa tea can be found in health food stores.

Yucca (*Yucca whipplie*)

An unusual looking plant with dagger-like gray-green leaves. The flower stalk is 2-3 meters tall with creamy white flowers. Yucca was extremely useful to the local Indians. The fibrous leaves were made into baskets, sandals and rope, the roots were used for soap, and the green stalk was cooked and eaten.

Photosynthesis

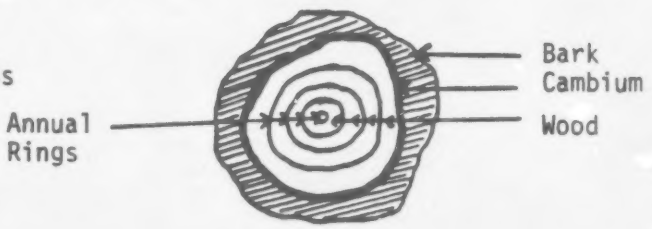
Green plants have the ability to change solar energy into food through the process of photosynthesis. This takes place mainly in the leaves. Plants containing chlorophyll use carbon dioxide, water and sunlight to make carbohydrates (usually sugar) and oxygen. In this way plants are the primary source of the world's food supply.

Evergreen - Deciduous

Trees that retain some of their leaves all year are called evergreen trees. These trees continuously shed leaves and grow new ones. Deciduous trees lose all of their leaves at once, usually in the fall. These trees are dormant until spring when they grow new leaves.

Tree Structure

Woody plants grow in two directions
They get taller and wider.



Bark - The outer portion which is dead, protects the living parts of the tree from injury, insects and disease. The inner, living portion carries food from the leaves to the roots.

Cambium - The living and growing part of tree trunks and branches.

Wood - The inner portion, which is dead, supports the tree. The outer, living portion carries water and minerals from the roots to the leaves.

Annual Rings - The cambium is actively growing only part of each year. The cycle of growth and rest appears as rings in the wood.

Soil Components

Soil is a combination of small rock particles and decayed plant and animal material. The forest floor is a good place to study soil because the stages of decay and mixing of the organic matter can easily be seen. Soil is made up of layers which reflect the various stages of formation. These are:

1. Topsoil - The uppermost layer. It consists of litter, accumulation of dead leaves and branches on the forest floor and humus, the decayed organic matter beneath it. Duff is occasionally used to describe a layer of partially decayed material between litter and humus.
2. Subsoil - The middle layer. It is the mixing zone between topsoil and parent rock materials. It has very little organic matter and is not suitable for plant growth.
3. Parent Rock Material - Bedrock and pieces of that bedrock that eventually become part of the soil.

FOREST TRAIL

RELATED LEARNINGS

Ecosystem

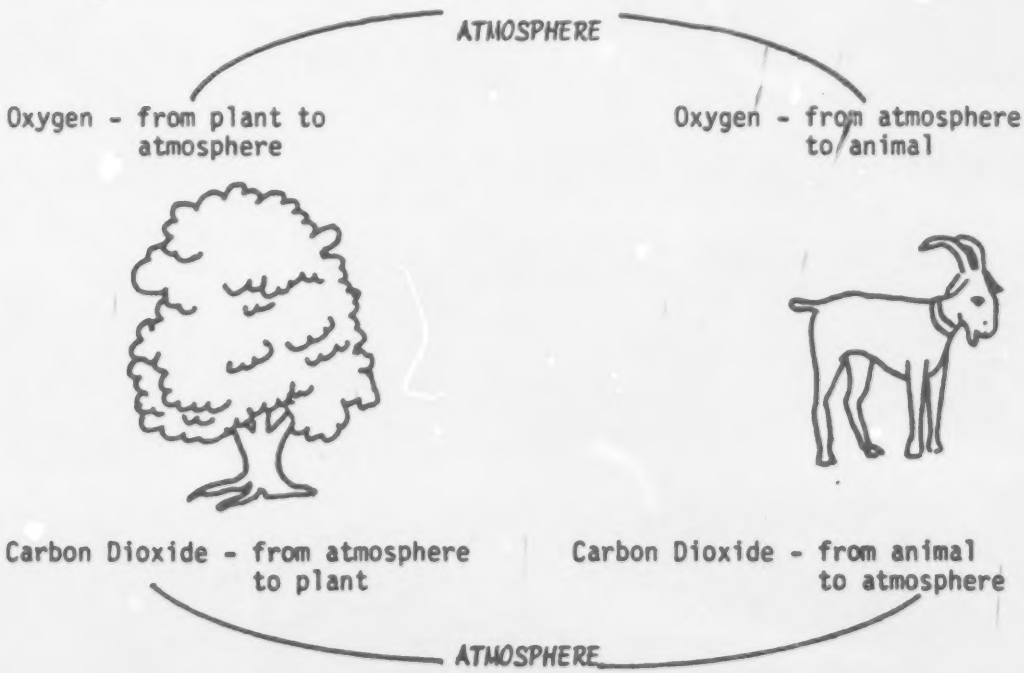
The forest environment is an ecosystem where plants, animals, and non-living things interact. The forest trail provides and opportunity for students to observe and study the interdependent components of this ecosystem.

Symbiosis

Symbiosis is a special relationship between two organisms. In the examples taught at Outdoor School the relationship is one of mutual dependence and is beneficial to both. Lichen is a good example being made up of an alga and a fungus. The alga provides food through photosynthesis and the fungus provides the protective structure.

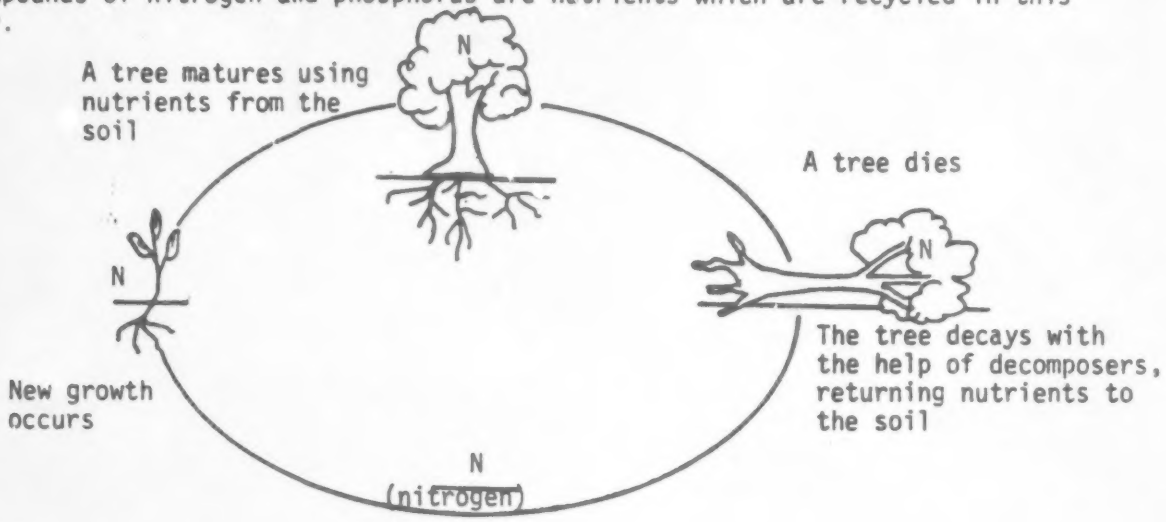
Carbon Dioxide - Oxygen Cycle (CO_2/O_2)

This cycle is the worldwide exchange of gases between plants and animals. Plants take in carbon dioxide and give off oxygen in the process of photosynthesis. Animals take in oxygen and give off carbon dioxide as they breathe. Plants are the primary source for the world's supply of oxygen and support the existence of animals.


ATMOSPHERE
Oxygen - from plant to atmosphere
Oxygen - from atmosphere to animal
Carbon Dioxide - from atmosphere to plant
Carbon Dioxide - from animal to atmosphere
ATMOSPHERE

Soil Cycle

Nutrients are important elements in any ecosystem because they promote plant growth. People fertilize their lawn and/or crops to increase the nutrients in the soil and stimulate growth. In the forest the nutrients needed by plants are contained in the organic layers of soil. Decomposers such as bacteria, fungi and insects break down organic matter which allows the nutrients to be reused. Compounds of nitrogen and phosphorus are nutrients which are recycled in this way.



Watershed

Mill Creek Canyon is the watershed for Mill Creek. The size, shape, amount and type of precipitation, terrain and vegetation of the watershed determines the character of the stream. Only part of this precipitation that falls on a watershed reaches the stream. This is known as runoff. In Mill Creek Canyon the steep canyon walls indicate relatively rapid runoff. Snow will melt and run off faster on the Chaparral side than on the Forest side. This influences the amount of water in the stream during each season. Erosion can put abnormal amounts of soil into the stream which affects stream flow and water quality. Any chemicals in the watershed (i.e., fertilizer, waste products from towns, oil on road surfaces) may eventually contaminate the stream.

Man's Impact

Forests are used in a variety of ways by people. Different uses of the forest affect the ecosystem in different ways. Forests can act as watersheds, they provide sites for recreation such as camping, skiing or hunting, and they are the major sources of wood. The effects of these uses vary from the direct removal of trees to erosion, littering, man-caused fires, and smog damage. Wildlife is affected by the alteration or destruction of their habitats. Forest management is the consideration of all economic and social uses desired while minimizing the impact on the ecosystem.

SUGGESTED ACTIVITIES

Examination of Tree Growth

On a cut stump find the wood, cambium and bark. Count the annual rings to determine the age of the tree. Look for signs of past injury and years of rapid or slow growth.

Rotten Log Examination

Find a downed tree that is starting to decay. Look for evidence of decomposition (crumbling fragments, spongy wood, a damp earthy smell) and decomposers (fungi, insect larva, adult insects).

Measuring Trees

Tree diameters can be measured using units of meters, feet or even children. Tree height can be estimated by students with a pencil and a partner. Procedures for estimating tree height is available at Outdoor School.

Animal Evidence Investigation

Many signs of animal life can be seen along the forest trail. Examples are: wasp galls, feathers, nest holes in trees, animal tracks, Engraver Beetle trails, gnawed pine cones and the animals themselves. Tree Squirrels and Chipmunks are mammals that are likely to be seen. Alligator Lizards and Western Fence Lizards are the common reptiles on the trail. Stellar's Jays, Chickadees and Band-Tailed Pigeons are the birds usually seen. Try to discover something about the animal from the evidence found. For example, animal tracks can show what type animal was there and which way it was going.

Sunprints

Prints of natural objects such as leaves or twigs can be made using light sensitive paper. Materials and instructions are available at the Outdoor School.

PLANTS

Pressed specimens of these plants and additional information about them is available at Forest Home.

Bay Leaf or California Laurel (*Umbellularia californica*)

An evergreen tree with long thin leaves and a strong aroma. The leaves are used as a spice and at Forest Home you may find one in your spaghetti or stew.

Big Cone Spruce (*Pseudotsuga macrocarpa*)

This tree has a long thin trunk, long spindly branches, and drooping branchlets. It is a close relative of the Douglas Fir, a northern tree, and is often mistaken for it. The main difference is cone size, Big Cone Spruce has large cones and Douglas Fir has small ones.

Big Leaf Maple (*Acer macrophylla*)

A water-loving deciduous tree found in forest canyons. It is related to the Sugar Maples of the East, but we do not get syrup from ours. It has winged seeds which fly (like helicopters) instead of just falling to the ground. This gives the seeds a better chance of surviving because they can move away from the parent tree.

Black Oak (*Quercus kelloggii*)

A deciduous oak with lobed leaves and rough dark bark. The acorns of this tree were preferred by the local Indians for food. The best known type of Mistletoe grows on black Oaks.

Canyon Live Oak (*Quercus chrysolepis*)

An evergreen with bicolored leaves, shiny and dark on top, dull and lighter underneath. The acorns have large solid caps with golden hairs inside. Acorns are food for many forest animals including squirrels and jays.

Coulter Pine (*Pinus coulteri*)

This pine is also found in sheltered sites in the Chaparral. It has long gray-green needles in bundles of 3 and large heavy cones. Its nickname is the Widow-maker because of a story that a ranger was killed by a falling Coulter Pine cone, thereby making his wife a widow.

Incense Cedar (*Libocedrus decurrens*)

A large evergreen tree with reddish-brown bark and scale-like leaves in flat sprays. The bark contains tannins which make it slightly fire and insect resistant. It is a conifer with small cones that are shaped like a fleur-de-lis.

Lichen

Usually found on rocks and bark where few other plants can grow. Lichen is algae and fungi growing together in a symbiotic relationship. The fungi house the algae which are green and provide food through photosynthesis. Lichen is seldom found in cities because it is sensitive to smog and smoke.

Mistletoe (*Phorandendron spp.*)

A partial parasite living on many forest trees. Different types of mistletoe live on different trees. Mistletoe is a green plant and makes some of its own food, but it does take water and some food from the host tree. This is why mistletoe can weaken or even destroy a tree.

Moss

A small primitive plant found in moist shady places. Some mosses were used by the Indians to dress wounds. This was effective because moss produces mild acids which kill some bacteria and prevent infection.

Ponderosa Pine (*Pinus ponderosa*)

A large pine with "jigsaw puzzle" bark and three needles to a bundle. It has small prickly cones. Ponderosa Pine is a favored tree for lumber because it grows very straight and tall with a wide girth.

Sugar Pine (*Pinus lambertiana*)

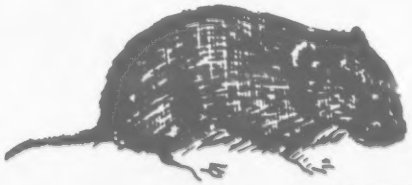
A pine with short needles in bundles of five and long slender cones. It is not common around camp but a few trees may be found in the area.

Sword Fern (*Polystichum munitum*)

A simple fern resembling the common house plant, the Boston Fern. Many of the fronds have spores resembling brown dust on their undersides. The developing frond is called a fiddlehead and is edible.

White Fir (*Abies concolor*)

An evergreen tree with short needle-like leaves and rough gray bark. The young trees have well-ordered layers of branches resembling an ideal Christmas tree. The age of these trees can be estimated by counting the whorls of branches.



CALIFORNIA VOLE

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GEOLOGY TRAIL

RELATED LEARNINGS

Mountain Building Processes

1. Folding - When pressure from two directions causes buckling, a "bend" in the earth occurs. The San Bernardino Mountains were formed by folding.

2. Faulting - When observable displacement (shifting) of a break in the earth's crust occurs. Major faults are generally caused by earthquakes. The eastern slope of the Sierra Nevadas is a good example of a fault scarp (the displacement).

3. Volcanism - Magma (molten rock material) rises towards the earth's surface through a weakness in the crust. A volcano occurs when the magma breaks through the surface. When the crust is pushed upward but the magma does not break through it is called doming.

Continental Drift

The earth's crust is composed of at least thirteen major ridged plates. These plates are in constant motion. The San Andreas Fault is the boundary between two of these plates: the Pacific plate, on which Southern California is located, and the North American plate, which supports the rest of the United States. The motion of these two plates with respect to each other has caused stresses responsible for the faulting, folding and volcanism which shaped the land. Southern California will always have active faults and earthquakes because we live on the edge of a moving plate.

Three Major Classifications of Rocks

1. Sedimentary - Rocks are broken down into fragments which are transported and deposited elsewhere by water. These deposits harden to form sedimentary rock.

2. Igneous - Formed at high temperature from molten rock beneath the earth's surface.

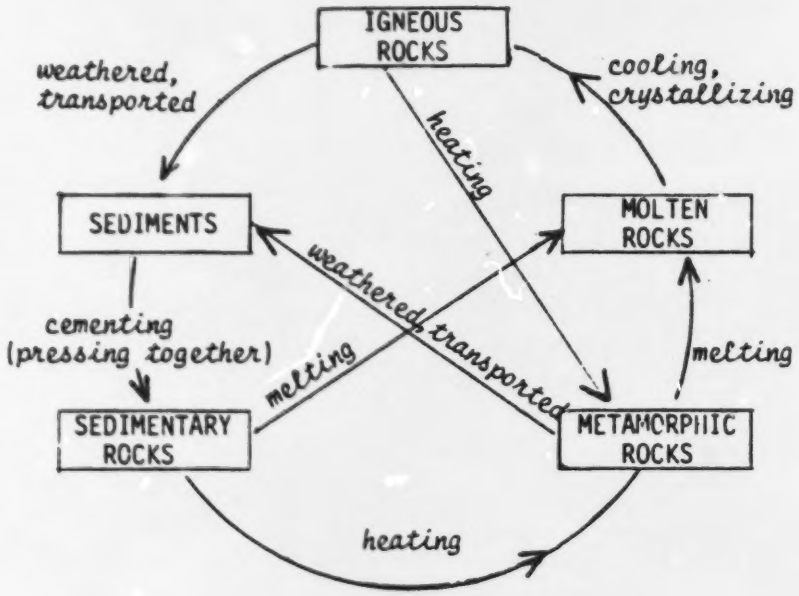
   a. Intrusive - cooled beneath the earth's surface. Crystals are usually large enough to be seen with the naked eye.

   b. Extrusive - cooled on the surface. A magnifying glass or microscope is needed to observe the crystals. Lava rock and pumice are examples.

3. Metamorphic - Rock changed by heat, pressure, and chemical action into new forms. This occurs deep in the earth's crust. Examples are: gneiss, schist, and marble.

Rock Cycle

The three major classifications of rocks are related through the changes that form them.



Weathering

Weathering is the process of breaking down rock.

1. Physical weathering - involves breaking down rock into smaller and smaller pieces. Forces that accomplish this are:

   Changing temperatures - The alternate expansion and contraction of rock with changing temperatures can cause it to crack (especially heat from lightning and fire).

   Plants - Roots growing in cracks exert pressure which enlarge the cracks.

   Water - The alternate freezing and thawing of water enlarges cracks due to the expansion and contraction of water.

   River Action - Flowing water causes rocks to tumble against one another.

2. Chemical weathering - changes the nature of the rock through chemical actions.

   Plants - Water and carbon dioxide from the air or from plants combine to form a mild acid which dissolves and discolors rock.

   Oxidation - A process where compounds (usually containing iron) change form aided by the presence of oxygen. Rust is oxidized iron. When iron contained in rocks oxidizes, it turns red or yellow.

Local Gold History

W. F. "Uncle Billy" Holcomb found gold in a valley near Big Bear in May of 1860. News of this discovery caused prospectors to rush to Holcomb's Valley, traveling by mule to the headwaters of the Santa Ana River and over the mountains to get there. Small towns grew up around the successful operations in the valley (miners earned five to ten dollars a day!) and an access road was built. Working the mines was soon hindered by heavy snow in winter, the start of the Civil War, and a growing population of outlaws. However, the miners still managed to take out enough gold to support themselves. The Holcomb Valley district produced enough gold to encourage prospecting in other parts of the San Bernardino Mountains and Mill Creek Canyon was one of these locations. Occasionally, abandoned equipment is found in the streambed as well as small amounts of gold. However, the source of the gold remains undiscovered.

SUGGESTED ACTIVITIES

Identifying Rocks and Minerals

Use hand lenses and the rock board to identify rocks and minerals from the streambed. The hand lenses will allow students to observe the minerals that compose the various rocks. Allow them to keep only a few pocket-sized rocks.

Use of Rock Hammers

A rock hammer is a tool used by a geologist. The pointed end is used to dig rocks out of the earth. Since weathering can change the appearance of a rock it is helpful to break the rock open to identify it. The flat end of the hammer is used for this. The best way to break a rock open is to place it on a larger flat rock and strike it at a weak point (a crack or a thin area). Safety goggles must be worn when using the hammers to prevent eye injury from rock chips.

Panning for Gold

The gold in our stream is primarily found in small flakes. Whenever the stream slows down it drops some of the materials being carried. Places behind rocks or at bends in the stream where the stream slows have accumulations of sediments. This is where the gold will be found. Gold is heavier than most of the other minerals in the sediment. When panning, the basic idea is to wash away the lighter materials, leaving the gold behind. Start with enough sediment to cover the bottom of the pan and fill the pan with water. Pan with a circular or side-to-side motion allowing the water and lighter sediments to slosh over the sides of the pan. When there is only a small amount of sediment left in the pan, sift through it looking for flakes of gold. Gold will shine from all angles, appear gold-colored in sun or shade and bend rather than break.

LOCAL ROCKS AND MINERALS

Rock boards are available at Forest Home to aid in identification.

Igneous Rocks

Granite - Black and white; or pink and white. Granite is the most common rock found at the Outdoor School. Granite is used for buildings and fireplaces. It contains these minerals:

Feldspar - Pink with a pearly luster. Feldspar breaks down to form clay soils. These feldspar clays are used in the manufacture of ceramics.

Hornblende - Dark green to black and glassy. It appears rectangular when viewed through a hand lens. Hornblende is not commonly found in our granite.

Mica - Shiny black, bronze or silver; peels in sheets. The nearly transparent silver mica was once used as a substitute for glass.

Quartz - Clear or milky colored rocks. Because of its hardness it can usually be washed all the way to the ocean. It is one of the main ingredients of beach sand and is the rock most commonly found in the canyon.

Metamorphic Rocks

Epidote - A green mineral that forms in the cracks and seams of nearly every type of metamorphic rock.

Gneiss - A rock usually made up of black and white bands of mica and quartz. The heat and pressure below the earth's surface causes the minerals from granite to separate and flow into these bands.

Marble - A white crystalline rock that has changed from limestone. Marble is most commonly used for buildings, statues and sink tops. Marble reacts with acid which is a characteristic used to identify it. There is an old quarry farther up Mill Creek Canyon where marble was excavated and sold commercially.

Garnet - Deep red crystalline. A secondary mineral generally found in metamorphic rock. Garnets are used as semiprecious stones for jewelry or crushed to form abrasives (i.e. sandpaper). Garnet is the birthstone for January.

Schist - A crystalline, striated rock. The common one found at the Outdoor School is mica schist which is black.

Instrusions - Epidote and quartz are the minerals that usually form veins in other rocks in our area.

Mica Schist with a quartz intrusion - is known as a "lucky rock." If a person carries a small specimen with him it is supposed to bring good luck.

Quartz with a Epidote intrusion - was valued by some Indians and used in trade in a way similar to our use of money. At camp we call it a "money rock."

RIPARIAN TRAIL

RELATED LEARNINGS

Ecosystem

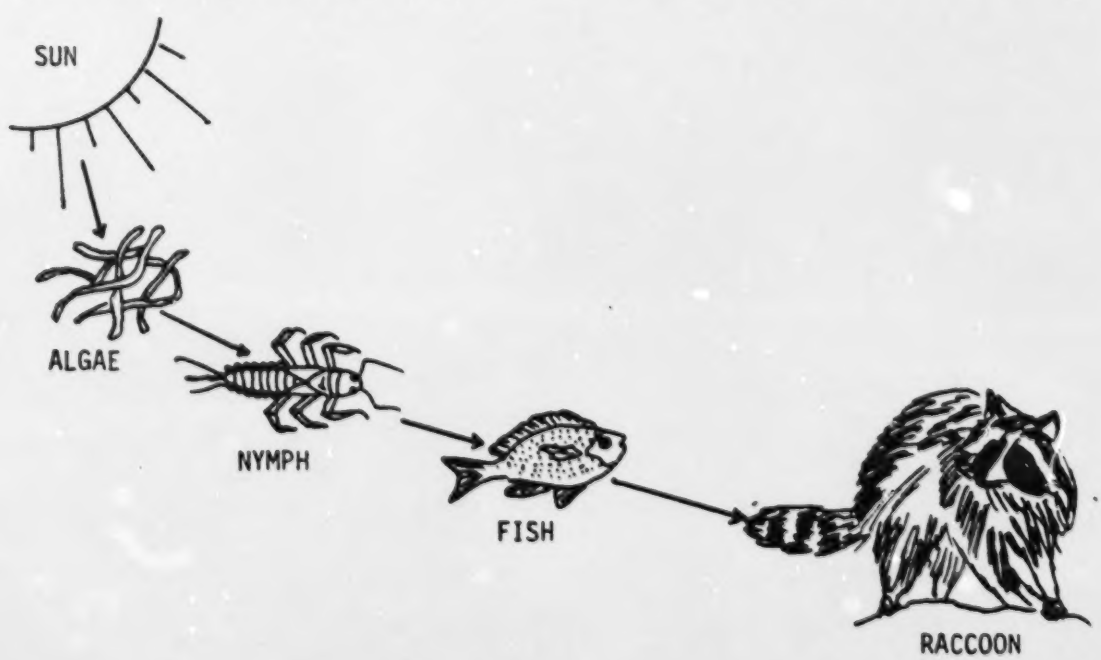
The Riparian environment is an ecosystem where plants, animals and non-living things interact. The Riparian trail provides an opportunity for students to observe and study the interdependent components of this ecosystem.

Interdependence

In any ecosystem many relationships occur between the plants, the animals, and the environment. These relationships are so intertwined that any element of the system cannot exist independent of the others. Because of this interdependence anything affecting one part of the system will ultimately affect the whole system.

Food Chain

A food chain links animals and plants together by "what they eat or who eats them." Plants begin all food chains because they are able to make their own food using energy from sunlight. Plants are the producers. Animals cannot make their own food. They are dependent on other living things as food sources and are known as the consumers. Animals derive energy from food therefore food chains involve transfers of energy. Only a portion of the energy acquired by a link in the chain is transferred to the next link. Some is lost as heat energy. The remainder is used by each plant and animal for growth and movement.



Plant Succession

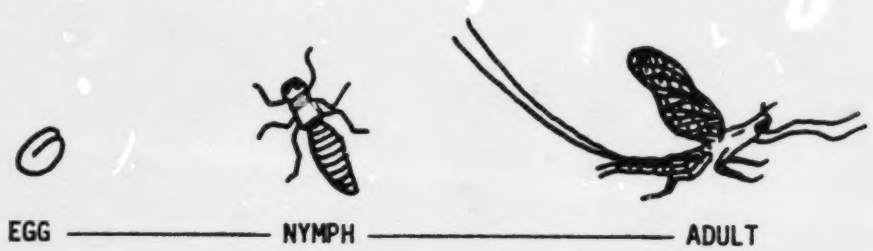
Plant succession is the gradual replacement of one community of plants by another. The Riparian area is being encroached by a few varieties of forest trees, mainly Incense Cedar and Canyon Live Oak. If these trees survive long enough, local conditions may change just enough to allow other forest plants to become established. Eventually the Riparian plants could be replaced by the forest plants in this process. If the conditions are not changed greatly, forest plants will not take over and the area will either revert completely to Riparian or remain as a transition zone between the two.

Insect Life Cycles

All adult insects exhibit certain characterisitcs. They have six legs and three main body parts; head, thorax, and abdomen. Most adult insects have wings. Insects have two main life cycles; Complete Metamorphosis or Incomplete Metamorphosis (also known as Simple Metamorphosis where wings have developed).

COMPLETE
METAMORPHOSIS
(Beetle)

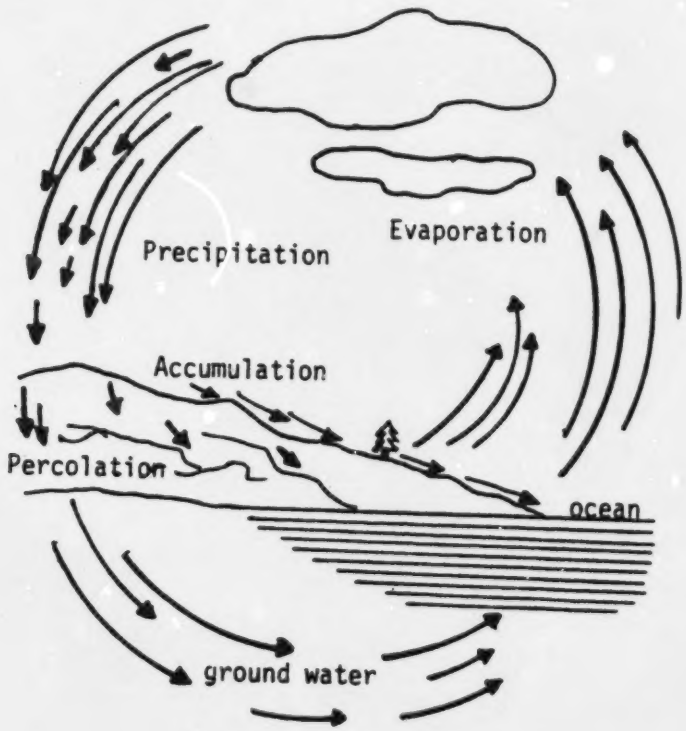
INCOMPLETE
METAMORPHOSIS or SIMPLE METAMORPHOSIS
(Mayfly)



In the stream we will mainly see larva and nymphs. These will have gills which allow them to breathe underwater. The adult insects have no gills.

Water Cycle

Water is continuously cycled on a global scale. The total amount of water in the world has not changed appreciably since the earth was formed.



Natural Resources

In the Riparian area the most important natural resource is water. Mill Creek joins the Santa Ana River, flows to Orange County, where most of the water slowly filters through the ground, and accumulates in wells. The quality of the water in Mill Creek affects the quality of the drinking water in these wells.

Weather Prediction

Different atmospheric conditions interact to form the weather. To some extent, weather determines what you do at the Outdoor School (i.e., what you wear, the types of activities available). Measuring different atmospheric conditions helps people to predict the weather.

Weather instruments at the outdoor school:

Barometer - Shows the current air pressure and indicates any change from the previous day. When forecasting, the direction of change (rising or falling) is more important than the numerical value. The units on the outside scale are read in inches of mercury.

Hygrometer - Measures the relative humidity by percent. When it rains the relative humidity is almost 100% because the air is saturated with water.

Maximum/Minimum Thermometer - Shows the current air temperature (the mercury level) and the previous maximum and minimum temperatures (the lower levels of the blue needles). The units are in degrees Farenheit. For a Celsius reading use the standard thermometer.

Rain Gauge - Shows the amount of precipitation in inches.

Beaufort Wind Scale - This chart provides a means of estimating wind speed in miles per hour through direct observation.

Prediction Chart - This simple chart provides a way to forecast the weather using readings from the weather instruments and observing clouds and wind direction.

Man's Impact

The Riparian trail is heavily used by people. This is made evident by litter, trampled plants, and initials carved on trees. An impact that is not obvious is the pollution in Mill Creek. The town of Forest Falls has contaminated the creek, primarily with sewage from seeping septic tanks. The pollution, along with other factors has resulted in water unsafe for human consumption, fewer fish, and an increase in algae and watercress who thrive on the increase in nutrients.

SUGGESTED ACTIVITIES

Aquatic Insects

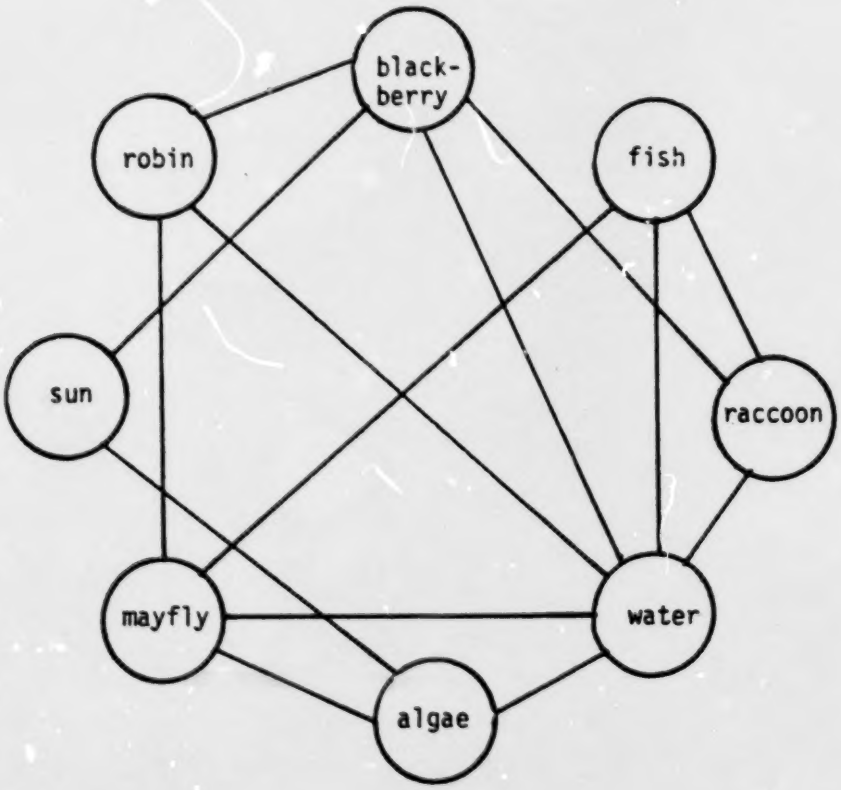
Using the nets and containers find and collect insects. A good way to find insects is to pick up rocks and wood and look on the undersides. Be sure to carefully replace any rocks or wood picked up; these provide homes for the insects. Put all the insects collected in a large white container for observation. Identify the insects and try to discover what they eat and who eats them (i.e., how they fit into the food web). Replace all insects at the end of the activity.

Animal Evidence Investigation

You can find many signs of animal life along the Riparian trail. Examples are: bird nests, sapsucker marks on Alder trees, acorn woodpecker storage trees and nest holes, animal tracks in sandy areas or in snow and the animals themselves. Animals that will probably be seen are: the aquatic insects, Alligator Lizards, Western Fence Lizards and Gray Squirrels. Acorn Woodpeckers and Robins are birds most commonly seen.

Web of Life

This is a game designed to show the complexity and interdependence of an ecosystem. The students represent living and non-living components of the Riparian ecosystem and build a web (with a ball of string) based on relationships between these components. The equipment and instructions are available at Outdoor School.



Weather Station

Explain each instrument at the weather station then have the students read and record the data. Using this data and the prediction chart, the group should make a weather forecast for the next 24 hours.

Sensory Awareness

Have the children sit quietly in a secluded place, with their eyes closed and listen to the sounds of the environment. They should do this for at least one full minute then discuss what they heard. Various leaves can be crushed and passed around to compare their odors. Mint is a good plant for this activity. Please use only one leaf from each plant.

Self Expression

Have the students write about or sketch an area, a specific object or an incident that relates to the Riparian environment. Encourage them to use descriptive words and to express their feeling in writing. They should try to incorporate their feelings about the chosen subject in their sketches. Information on forms of poetry and sketching techniques are available at the Outdoor School.

PLANTS

Pressed specimens of these and other Riparian plants plus additional information about each plant are available at Forest Home.

Algae

Simple plants that live in water and contain chlorophyll. They lack true roots, stems or leaves.

Blackberry (*Rubus ursinus*)

A vinelike shrub with an abundance of thorns. The berries are a favorite of bears and birds as well as humans.

Currant (*Ribes nevadense*)

A thornless shrub with bright red edible berries. The early settlers made jelly from this fruit.

Mint (*Mentha spp.*)

A pleasant smelling plant found near water. It has square stems and opposite leaves (the leaves come out in pairs). Mint is often used to flavor foods (i.e., tea or gum).

Mugwort (*Artmesia douglasiana*)

An abundant plant with leaves that are green on top and silvery underneath. The Indians used mugwort as a cure for the pain and itch of stinging nettles.

Stinging Nettles (*Urtica gracilis*)

A plant to be wary of! It has opposite leaves with serrate (sawtooth) margins. It is covered with hairs that cause the skin to sting and itch when touched.

Watercress (*Rorripa nasturtium-aquatica*)

Found directly in the water of slow streams and pools. It is edible and has a taste resembling radishes.

White Alder (*Alnus rhombifolia*)

The dominant tree near streams. It has white or gray bark and seed pods which resemble small pines cones.

Wild Rose (*Rosa woodsii*)

A thorny shrub with showy pink flowers. Rosehips are a good source of vitamin C.

ANIMALS

Amphibians and Reptiles

Alligator Lizard - a large lizard, gray-brown or olive green with dusky brown crossbars on top, gray to yellowish underneath.

Alligator Lizards feed on slugs, insects, scorpions, and spiders. When caught they generally attempt to bite, but they are not poisonous. Their tails are easily broken off.

California Newt - tan to dark brown above, orange below with a long tail, large eyes, and rough skin.

Newts live near streams in moist places under rocks and logs. They enter the water to breed and lay eggs. Newts eat worms, slugs, and insects. They secrete a poison through their skin which protects them from most predators. This poison is irritating to the human eye so care must be taken when approaching them.

Gopher Snakes - dull yellow or cream with black, brown or red-brown blotches.

The gopher snake is often mistaken for a rattler because of the similarities in markings as well as the behavior of hissing and vibrating its tail when alarmed. They are good climbers and burrowers. They eat mice, gophers, squirrels, birds, bird eggs, and lizards.

Garter Snakes - usually striped.

They are the most aquatic of the snakes around the Outdoor School area. Garter Snakes are diurnal (awake and active during the day). They eat worms, slugs, insects, birds and bird eggs.

King Snakes - moderate sized snakes with glossy skins; the Common King Snake has dark brown, white or pale yellow bands; the Mountain King Snake has black, white, and red bands.

They kill by constriction and eat snakes (including rattlers), lizards, eggs, rodents, and birds. They are found on both sides of the canyon at camp.

Racers - diurnal, fast-moving, smooth-scaled snakes. This group includes the Racer: brown or olive above, yellow below, and the Striped Racer; black or dark brown with yellow or cream stripes.

When hunting, racers hold their heads above the ground. They eat lizards, mice, birds, and bird eggs and insects which they capture by ambush or pursuit. They are located on the Chaparral side at Forest Home but are rarely encountered.

Rattlesnakes - heavy-bodied, venomous snakes with a rattle at the tip of the tail.

Rattlesnakes usually forage at night but are also abroad in the daytime. They ambush their prey and use temperature sensitive organs located between their eyes and nostrils to aid in directing their strike. They eat rabbits, squirrels, gophers, wood rats and mice. Rattlesnakes are found in the Chaparral but are rarely encountered.

Spiny Lizards - the "blue bellies." Most males have blue patches on the belly and throat.

Spiny lizards have pointed scales on top giving them a rough, spiny appearance. They are often seen basking on top of rocks or stumps in the full sun. They eat insects, spiders, and centipedes. This group includes the Western Fence Lizard, Sagebrush Lizard, and Granite Spiny Lizard.

Western Skink - a lizard with smooth, shiny scales, dark and light stripes and a dull blue tail.

Young skinks have a bright blue tail. Skinks eat insects and spiders.

Western Toad - gray or greenish with dark blotches and warts.

Toads are found near ponds or slowly flowing streams where they breed. A mild poison is secreted by the warts which repels some predators and can irritate human eyes. They eat insects, slugs, and spiders. They are nocturnal and diurnal but a few have been seen at Forest Home.

Birds

Anna's Hummingbird - a small, irridescent green bird with a long thin bill. The male has a bright red crown and throat.

Hummingbirds sip nectar from tubular flowers, always hovering as they feed. Their wingbeats are so rapid that it produces a humming sound. They are the only birds who can fly backwards.

Acorn Woodpecker - a black-backed woodpecker with black, white, and red face markings.

Acorn Woodpeckers live in small flocks and store acorns in the bark of trees. The flock will defend these trees from other animals. They eat acorns, sap and insects.

Band-tailed Pigeon - a large gray pigeon with a pale, broad band across the end of the tail.

Band-tailed Pigeons are commonly seen flying in small groups or perched in the tree tops at Forest Home. They eat seeds, acorns and fruit.

Bullock's Oriole - The male is orange and black with white wing patches; the female is olive green and yellow.

Orioles are first seen in the spring, when they move up from lower elevations.

Orioles eat insects, fruit, and grain.

Common Flicker (or Red-Shafted Flicker) - a jay-sized woodpecker with a brown back and spotted underparts. It shows salmon-colored wing and tail linings in flight.

They are commonly seen around Camp Rancho, on the ground as well as in the trees. They eat insects, especially ants, and sap.

Dark-Eyed Junco - a small rusty brown bird with a black head and white tail markings.

Dark-Eyed Juncos are commonly seen in small flocks on the ground searching for seeds.

Dipper - a plump, black bird with a short, stubby tail.

Dippers are found around mountain streams where they dive, swim, and walk on the bottom in search of aquatic insects.

Golden Eagle - a very large, dark brown bird with a 6-7 foot wingspan.

At the Outdoor School, Golden Eagles are occasionally seen soaring above San Bernardino Ridge searching for rabbits and large rodents. Golden Eagles are becoming scarce as more and more people are moving into formerly wild areas. They mate for life, and a pair requires a large range in which to hunt, as well as an undisturbed nest site in order to successfully raise young.

Great Horned Owl - a large dark owl with ear tufts.

Great Horned Owls are occasionally seen and heard at dusk on the forest side of the valley. They are nocturnal and eat small mammals. Owls have a special feather structure which allows them to fly silently.

Mountain Chickadee - a small gray bird with a black cap and throat.

Mountain Chickadees are found in the forest where they actively forage for insects on the branches of conifers. Chickadees are solitary in the spring but travel in mixed flocks with Nuthatches, Juncos and Kinglets in the fall and winter.

Mountain Quail - a brown and gray ground bird with a plump body and a long straight head plume.

Mountain Quail are occasionally seen in the Chaparral and in quiet spots at the Rancho site. They eat insects, seeds, buds, and berries.

Red-tailed Hawks - a large, broad-winged hawk with a rusty red tail and light underparts.

Red-tailed Hawks are often seen perched on poles and treetops or soaring above the ridges. They eat lizards, squirrels, wood rats, and mice.

Robin - a large bird with a slate gray back and a brick red breast.

Robins are often seen under trees searching for insects and worms. They also eat fruit when it is available.

Scrub Jay - a crestless blue jay with a brown patch on its back and pale gray underparts.

The Scrub Jay is found in the Chaparral.

Stellar's Jay - a large blue bird with a black head and crest.

Stellar's Jays are found in the forest and around the Outdoor School where they forage for acorns and food scraps left by people.

Violet-Green Swallow - glossy purple and green above and white underneath with white rump patches.

The Violet-Green Swallow is an excellent flyer with long, pointed wings. They eat insects which they catch in flight. They are generally seen on the south facing slopes and are most active when insects are prevalent.

Western Bluebird - males have a blue head, wings, and tail and a rusty red back and breast; females are paler and duller.

The Western Bluebird is a common bird on the south facing slopes. They prefer conspicuous perches in the tree tops or on high wires. They drop from these high perches to catch insects both in the air and on the ground.

Western Tanager - males are yellow with black wings, tail, and back, and an orange head.

Western Tanagers arrive in the spring. They eat insects and fruit.

Yellow-Bellied Sapsucker - a woodpecker with a black back, red head and yellow belly.

Yellow-Bellied Sapsuckers drill parallel holes in live trees then return to feed on the insects and sap. The birds are seldom seen but these Sapsucker marks are commonly found on the Alder trees in the area.

Yellow-Rumped Warbler - a black and white bird with a yellow rump, throat, and crown, in the winter they are brownish with a yellow rump.

Yellow-Rumped Warblers can be recognized at the Outdoor School by their behavior, (i.e., flying out from a tree, turning abruptly, then diving back into the foliage, as they catch insects in flight.)

Mammals

Badger

A stocky animal with a grizzled gray back, bushy tail, and black and white face markings. The Badger has strong forelimbs and long front claws which aid it in digging out its food consisting of ground squirrels, gophers, mice, and chipmunks.

Bats

The only mammals capable of true flight. They are nocturnal and eat insects which they capture in flight. Bats do not rely on their eyes when flying at night. Instead they emit high-pitched sounds which are bounced off nearby objects. The Bat uses these echoes to navigate. Bats can occasionally be seen or heard at camp during fall or spring evenings.

Bighorn Sheep

Yellow-brown to gray-brown on top with a white rump and underparts. The ewes have small, slightly curved horns and the rams have large spiralled horns. Bighorn Sheep live in rugged country which provides good visibility and little competition from other grazing animals. The steep rocky slopes at the head of Mill Creek Canyon are the habitat of the Bighorn Sheep in our area.

Black Bear

The Black Bear is probably the most easily recognized mammal in California. Its color ranges from light brown to black. Although related to the carnivores, bears primarily eat plant material such as roots, fruits, nuts, and grasses, along with some insects, fish and small rodents. The Black Bear in our canyon seldom wander near camp, they seem to prefer going over the ridge to Oak Glen to eat apples.

Bobcat

A large cat with a short tail, pointed ears and gray to reddish fur with brown or black spots. Its habitat is the rocky Chaparral where it hunts gophers, squirrels, wood rats, mice and rabbits. The Bobcat is nocturnal but is known to sun itself in the afternoon.

California Ground Squirrel

Mixed gray-brown and sometimes spotted. They nest underground and eat seeds, nuts, and fruit. In the fall they can be seen actively feeding and gathering nuts in their cheek pouches. They use stored fat to provide energy during hibernation, thus needing a great quantity of food.

Chipmunks

Brown with light and dark stripes on their backs and the sides of their heads. Chipmunks eat seeds and nuts, live underground and hibernate in the winter. They store food for winter in large underground caches. They are diurnal, but

are more often heard than seen because they stay near cover. Their call is a a repeated chirp accompanied by a tail flick which can be used to locate them.

Cottontail Rabbit

Mixed brown and black on its back with a white tail. Cottontails eat grasses, leaves, and fallen fruit such as acorns. They are eaten by Bobcats, Coyotes, Foxes, Hawks, Eagles, and large Owls.

Coyote

Grayish or tawny with a dark tip on the tail. Coyotes are nocturnal but are occasionally seen during the day. They frequent the Chaparral side of the canyon where their tracks and scat are often found. Rabbits, Squirrels, Gophers, and Mice are the main food sources of the Coyote.

Gray Fox

Smaller than a Coyote, blackish-gray above and rusty white below with a black-tipped tail. Foxes eat Gophers, Rabbits, Wood Rats, Mice and Quail and some plant materials such as manzanita berries. They live in the Chaparral and are rarely seen because they are nocturnal. However, their tracks and scat can be found.

Gray Squirrel

Silvery gray with a bushy gray tail edged with white. They have no cheek pouches, do not hibernate, and are diurnal. They are commonly seen around camp. They eat acorns and can be seen in the fall busily burying acorns in separate holes. They retrieve acorns using their sense of smell but some are missed which promote the growth of new oaks. The Gray Squirrel is a good climber and is relatively safe in the trees. Predators (bobcats, coyotes, large hawks, and owls) generally catch them on the ground.

Mice

There are many types of Mice found in our area. Pocket Mice, which resemble the Kangaroo Rats of the desert, Harvest Mice, the large-eared Deer Mice and Meadow Mice. They are all nocturnal and generally seed eaters. However, many Mice eat spiders and insect larva when it is available. Their predators are Owls, Hawks, Snakes, Weasels, Skunks, Coyotes, and Bobcats.

Moles

Black with a cylindrical body and sensitive snout and tail. They have small non-functional eyes and legs adapted for moving underground. Moles can easily move backward or forward in tunnels. Moles eat earthworms and some plant material. They are rarely seen because of their underground habitat.

Mountain Lion

A very large (6-8 feet long) tawny cat with a black-tipped tail. They are also know as Cougars, Pumas, and Panthers. Mountain Lions live and hunt

in remote areas and their signs are seldom seen near human habitations. Their main source of food is deer but they also eat Bighorn Sheep and smaller mammals.

Mule Deer

Mule Deer tracks have been found on both slopes of our canyon although they prefer brushy areas to forests. They are browsers, eating the leaves of shrubs and young trees. Their primary predators are Mountain Lions and humans.

Pocket Gopher

Brown above and gray to white underneath with a short nearly naked tail. A Gopher's incisors are always outside of his mouth which allows him to use his teeth to dig as well as to eat. Gophers eat roots, grass stems, and seeds. In the natural environment gophers are beneficial by working the soil as they tunnel. At Forest Home these burrows are commonly seen in the oak woodlands on the south facing slopes. Gophers tend to be harmful only where their natural predators (hawks, owls, gopher snakes, weasels, foxes, and coyotes) are absent.

Raccoon

Grayish-brown mixed with black with a ringed tail and a black mask. Raccoons are very curious animals and like to handle things with their sensitive paws. They lose their fear of humans relatively easily and can become a nuisance by rummaging through trash cans and begging for food. They are active all year and at Forest Home live near and under the cabins. Raccoons are nocturnal and are often seen in camp.

Shrews

A small animal with a long pointed nose, small eyes and a scaly tail. They have a high metabolic rate and must eat nearly continuously to keep themselves alive. Shrews feed on insects, spiders and some plants. They are diurnal and nocturnal but are rarely seen.

Spotted Skunk

Black with irregular spots and stripes and a white tipped tail. The Spotted Skunk is the size of a small cat. When threatened it will raise its tail which then forms a conspicuous white rosette. This serves as a warning because it has scent glands at the base of its tail which will spray a powerful scent causing nausea and temporary blindness at close range.

Wood Rat

A rat-sized rodent, gray-brown and white below with a hairy tail. Wood Rats are popularly known as Pack Rats because of their habit of collecting things such as jar lids, gum wrappers, tin cans, and whatever they can carry back to their nests. The nests are large piles of sticks under shrubs or in the lower branches of trees. These nests are commonly seen in the Chaparral. Wood Rats are nocturnal and eat acorns, seeds, roots, and fruit. They use prickly pear cactus as a source of water in the summer.

AQUATIC INSECTS

More information about these insects is available at Forest Home.

Caddisfly larva

Found attached to rocks in streams. They build protective shells of sand, pebbles, and bark around themselves and protrude from an opening at one end to feed.

(actual size)

Diving Beetle

A shiny black beetle that is able to swim underwater. It carries a bubble of air under its wing covers which allows it to breathe while it swims.

(2x actual size)

Hellgrammite

Fierce-looking larva of Dobsonflies. They are voracious carnivores and will eat any small aquatic life.

(actual size)

Mayfly Nymph

Lives under rocks in streams. The nymphs and adults are a favored food of trout. Mayfly adults live only 24 hours. In that time they must find mates and lay eggs. They have no stomach and do not eat during their adult life.

(2x actual size)

Mosquito

The larva are common in ponds and puddles but absent in streams. The adult female is the only one who bites mammals, requiring a blood meal before laying eggs.

(2x actual size)

Stonefly Nymphs

Found most often in fast moving streams. They resemble Mayfly nymphs but have two-pronged tails, not three like the Mayfly.

(actual size)

Water Strider

Found on the surface of ponds and pools. Surface tension allows them to skate about on the water and never get wet.

(actual size)

GLOSSARY

GLOSSARY

The particular definitions chosen relate specifically to the Outdoor School curriculum. Some words may have broader meanings in general use.

Accumulation	The collection of water into rivers, streams, lakes, and oceans.
Adaptation	A change in structure or habit of an organism that produces better adjustment to the environment.
Alga (singular) Algae (plural)	A simple plant that lives in water and contains chlorophyll. An alga lacks true roots, stems or leaves.
Amphibian	A cold-blooded vertebrate without scales, feathers, fur, or hair which has gills in the early stages of development.
Annual Ring	The layer of wood produced by the growth in a single year. (Also known as a growth ring.)
Aquatic	Living or growing in or on water.
Astronomy	The scientific study of heavenly bodies and their motions.
Atmosphere	The layer of gases surrounding the earth and other planets
Avalanche	A large mass of snow, ice, earth or rock moving swiftly down a mountainside.
Bacteria	Single-celled micro-organisms that lack chlorophyll.
Balance of Nature	A dynamic but delicate interplay of life forms and their physical environment.
Barometer	An instrument for measuring atmospheric pressure, used in weather forecasting.
Bedrock	The solid rock underlying the soil. It is also known as the parent rock material.
Biotic	Pertaining to life and living organisms.
Black Hole	An invisible collapsed star with a small diameter and an intense gravitational field.
Broadleaf	The term describing a plant with wide bladed leaves (i.e., Oak or Maple). Generally refers to flowering trees in contrast to conifers.
Cambium	The growth layer between the bark and wood on a tree.

Canopy	An overhanging screen (i.e. treetops) which form the forest ceiling.
Carbon Dioxide/ Oxygen Cycle (CO_2/O_2 Cycle)	The interchange of carbon dioxide and oxygen between animals and plants.
Carnivore	Any chiefly flesh-eating animal. Contrast with herbivore.
Chaparral	The community of thick and often thorny bushes that grow on dry rocky slopes and in poor soil in California and Mexico. Examples: Buckthorn, Manzanita, Mountain Mahogany and Chamise.
Chlorophyll	The green coloring matter in plants which is essential for food manufacture through photosynthesis.
Climate	Average weather conditions of an area over a long period of time.
Comet	A celestial body with a glowing, nebulous head which orbits the sun. (It develops a long tail near the sun.)
Community	A group of plants and/or animals living together and depending upon one another in a given area. A community is usually defined by the dominant plants found in it (i.e., Chaparral, Yellow Pine Forest, etc.)
Competition	The interaction resulting from several organisms sharing an environment resource (in short supply).
Condensation	The process by which a gas is changed to a liquid.
Cone	The seed or pollen-producing structure associated mainly with pines, firs, and other needle-leaved trees. Male cones are usually small and produce pollen. The female cones are larger, woody and produce seeds.
Conifer	An evergreen shrub or tree that bears its seeds in true cones, such as pine, fir, spruce, etc.
Conservation	The wise use of natural resources with consideration not only for the present but for the future.
Constellation	A group of stars depicting an imaginary figure, usually from mythology.
Consumer	Organisms who prey on and ingest other organisms.
Continental Drift	The concept of continent formation through the process of slowly moving land masses.
Decidious	A term used to describe plants which shed all their leaves seasonally.

Decomposer	A plant or animal which feeds on dead material causing its breakdown into simpler forms.
Diurnal	Awake and active during the day. Contrast with nocturnal.
Dormant	A state of suspended activity.
Ecology	Scientific study of the relationship between organisms and their environment.
Ecosystem	An environment of any size where plants, animals and non-living things interact. All components are linked together through energy and nutrient flow.
Environment	All living and non-living conditions that affect the life of animals or plants at any point in their life cycle.
Epidote	A green mineral made up of Calcium and Aluminum. It generally forms thin crusts in cracks and seams of metamorphic rocks.
Erosion	The wearing away of earth or rock by air, water or changes in temperature.
Evaporation	The process by which a liquid is changed to a gas.
Evergreen	Remaining green throughout the year -- especially those trees that do not shed all their leaves in one period.
Extrusive Rocks	Igneous rocks that are cooled quickly on the earth's surface. Contrast with intrusive rocks.
Faulting	Fracturing the earth's crust with observable displacement.
Feldspar	A pink-white mineral found in granite and other rocks. Clays are formed from weathered feldspar.
Fern	A non-flowering primitive plant, feather-like in appearance which reproduces by spores.
Flower	That part of a seed plant comprising the reproductive organs and their coverings.
Folding	Pressure from two directions causing buckling in the earth's surface.
Food Chain	The transfer of food energy from the source in plants through a series of organisms eating and being eaten (i.e., sun-grass-steer-man).
Forest	A complex community of plants and animals in which trees are the most conspicuous members.

Fossils	Remains or impressions of plants or animals naturally preserved in rocks.
Fruit	The edible, pulpy mass covering the seeds of various plants.
Fungus (singular) Fungi (plural)	A plant without chlorophyll that cannot make its own food. It can live on dead or living material.
Galaxy	A large system made up of billions of stars that are usually arranged in a spiral or ellipse.
Gall	A growth on plants caused by insects or parasitic fungi.
Garnet	A deep red crystal found in igneous and metamorphic rocks. Used as a semiprecious stone in jewelry.
Geology	The study of the structure of the earth, its history and the forces that affect it.
Gneiss	A metamorphic rock, generally made up of bands which differ in color and texture.
Granite	An igneous rock composed chiefly of feldspar, quartz, mica and hornblende.
Habitat	The region where a plant or animal naturally lives.
Herbivore	Any animal that primarily eats plants. Contrast with carnivore.
Hibernate	To spend the winter in a resting state where all body processes slow down.
Humidity	The content of moisture in the atmosphere at a given time.
Humus	The dark brown substance in soil formed by the decay of plants and animals.
Hygrometer	An instrument for measuring the relative humidity (amount of moisture) in the air at a given time.
Igneous Rocks	Rocks formed by the cooling and hardening of molten material.
Insect	An invertebrate whose adult stage has three body segments, three pairs of legs, and usually wings; the most numerous animal on earth.
Interdependence	Reliance of two or more living things upon one another for survival.

Intrusion	Igneous rock that invades older rock through weaknesses; usually appears as a ring or band.
Intrusive Rocks	Igneous rocks that are cooled slowly beneath the earth's surface (i.e. granite). Contrast with extrusive rocks.
Invertebrates	The lower and simpler form of animals having no backbone.
Larvae (plural) Larva (singular)	The feeding stage in the insect life cycle of <u>complete</u> metamorphosis.
Lichen	A plant combining fungi and algae living together in a partnership (symbiosis).
Life Cycle	The developmental sequence of a living thing.
Light Year	The distance light travels in a year at a speed of 186,000 miles per second.
Limiting Factor	The physical factor that is important in restricting animals or plants in that environment.
Litter	The dead leaves, branches and other plant and animal remains that form the top layer of the forest floor.
Magma	Molten rock material.
Mammal	A warm-blooded vertebrate animal with hair. The female nurses its young.
Marble	A metamorphic rock crystallized from limestone.
Metamorphic Rocks	Rocks that have undergone a change through heat and pressure.
Metamorphosis	The change in the physical form of an insect as part of its development.
Meteor	A stony or metallic piece of matter that enters the earth's atmosphere. (Sometimes called a shooting star or falling star.)
Mica	The shiny, black or transparent mineral found in granite. Mica separates readily into thin sheets.
Milky Way	The galaxy of which the sun and our solar system are members. Part of it appears as a streaky, hazy light in the sky.
Mineral	Any inorganic substance that has a definite chemical composition and crystalline structure. (Some minerals can combine to form rocks.)

Moss	A simple non-flowering green plant which reproduces by spores. Moss grows on rocks, wood, and in moist places.
Natural Resources	Materials found in nature that are used by man, (i.e., sunshine, air, water, soil, minerals, forest, wildlife, etc.)
Natural Selection	A process that causes the survival of indiviudals or groups best adjusted to the conditons under which they live.
Nocturnal	Awake and active during the night.
Nova	A sudden outburst of light from a star as its outer shell of gases is blown away.
Nutrients	Minerals and vitamins needed by living things.
Nymph	The immature stage in the life cycle of an insect undergoing incomplete metamorphosis.
Omnivore	An organism that feeds on plants and animals.
Orbit	The path in space along which a heavenly body revolves about another. Also, one complete revolution of a body on such a path.
Organism	A living thing, plant, or animal.
Parasite	A plant or animal which takes its food from another living thing (its host). A parasite is usually harmful to its host.
Parent Rock	The solid rock and rock fragments that underly the soil. Also know as Bedrock.
Percolation	Filtering of water through soil and rocks into the ground.
Photosynthesis	The process by which green plants utilize sunlight in making food (mainly carbohydrates) from carbon dioxide and water.
Pistil	The seed-bearing part of a flowering plant.
Planets	Natural satellites that move around the sun in nearly circular paths (orbits).
Pollen	The male reproductive dust from the stamen.
Pollination	The transfer of pollen from the stamen to the pistil. This fertilizes the plant and allows it to produce seeds.

Pollution	Harmful substances deposited in the air, water or on land, leading to a state of dirtiness, impurity or unhealthiness.
Precipitation	Water deposited on the earth in various forms such as rain, sleet, snow, hail and mist.
Predator	An animal that hunts and kills other animals for food.
Prey	An animal that is hunted by another.
Producer	An organism (as a green plant) which produces its own organic compounds. A food source for other organisms.
Protozoans	Any number of one-celled animals, usually microscopic belonging to the lowest division of the animal kingdom.
Pupa	The resting stage in the insect life cycle of <u>complete</u> metamorphosis.
Quartz	A common mineral containing silicon that is usually white or opaque.
Reproduction	The means by which living things produce more of their own kind and keep their species alive.
Reptile	A cold-blooded, airbreathing vertebrate covered with scales or bony plates.
Riparian	Plants or animals living or located along the banks of streams, rivers or other bodies of water.
Rock	A material composed of one or more minerals.
Rock Cycle	The continual formation of igneous, sedimentary and metamorphic rock through the processes of melting, cooling, crystallization and weathering.
Rotation	The act of turning on an axis or center. One complete rotation of a planet equals one planet day.
Satellite	A smaller body revolving around a larger one.
Scat	Animal droppings. Scatology is the study of animal diet through examining scat.
Scavenger	An animal which eats dead animals or plants.
Schist	A metamorphic striated rock with cleavage along parallel planes.
Sedimentary Rocks	Rocks formed from materials moved from one place to another and deposited in water. Sedimentary rock usually appears layered.

Slope Effect	The environmental effect caused by the orientation of the sun upon different slopes.
Snag	A standing dead tree from which the leaves and most of the branches have fallen.
Soil	Finely divided rock material mixed with decayed plant and animal material. Soil is the medium in which plants grow.
Soil Cycle	Nutrients contained in organic layers of soil promote growth of living things, are decomposed, and recycled through the growth process.
Soil Compaction	To increase the density of soil through impact on the surface layers.
Solar System	The sun and all the dependent bodies that revolve about it.
Spore	The reproductive body of a fern, moss, or fungus.
Stamen	The male or pollen-bearing part of a flower.
Star	A large glowing ball of hot gases.
Substrate	The medium on or in which an organixm lives.
Succession	The gradual replacement of one community by another.
Sun	The yellow star which is the center of our solar system.
Supernova	The explosion of a massive star. A high percentage of the star's mass is blown away accompanied by a burst of light that may be millions of times brighter than the star.
Switchback	A zigzagging turn in a road or trail in a mountainous area.
Symbiosis	A special relationship between two living things. Usually both organisms benefit and need each other to survive.
Transpiration	The process by which water evaporates from plant tissues.
Transverse Range	A mountain range lying at right angles (east-west) to the more commonly found ranges running north and south.
Vertebrates	The higher and more complex form of animals having a backbone, such as fish, amphibians, reptiles, birds, and mammals.

Volcanism	Magma (molten rock) breaking through the surface (volcanos) or pushing up the earth's crust (doming).
Water Cycle	The recycling of water through evaporation, condensation, percolation, and precipitation.
Watershed	A region or area drained by a stream or river.
Weather	The condition of the earth's atmosphere at a given time and place.
Weathering	The process of breaking down rock by such forces as water, ice, chemicals, growing plants, and changing temperature.
Whorl	A pattern of leaf or branch arrangement where three or more leaves or branches orginate.
Wilderness Area	An area set aside by the government for the preservation of natural conditions for scientific and/or recreational purposes.

III. TRAIL ACTIVITIES

A. Trail Activities Emphasize the Following:

1. Appreciation, enjoyment and concern for our natural environment
2. First hand experience with many activities that require student participation (hands-on and sensory awareness)
3. Conservation of natural resources (stress environmental and ecological concepts and overviews rather than specifics like identification)

B. Four Study Areas

1. Background information
   a. this information is provided for the classroom teacher to get an overview of each trail, and to do research in areas of uncertainty before arriving at the site
   b. glance through all four trails to get an overview, then read and study the information for your specific trail
   c. be familiar with the animals and vocabulary
2. Trail cards
   a. these are provided for the staff and visiting teachers as they learn a trail
   b. they can be used as a quick reference and outline of the trail; especially helpful to carry along the first few times you teach
   c. be familiar with all four trails in order to understand how your trail fits into the whole; study the trail card for your trail
   d. you'll find the trail cards in the supplement sections in each camp as each site uses slightly different areas (to minimize congestions)

C. Picnic Hikes (All-day Hikes)

1. A four hour hike where the lunches are packed in backpacks and students, teachers, and staff eat while on the trail
2. Picnic hikes can be extended study trails (4 hours on Riparian, Chaparral, etc.) or choice hikes where students choose the area they'd most like to visit
3. Popular areas to hike
   a. Big Falls - highest waterfall in Southern California
   b. Hidden Falls - small creek area up steep Chaparral ridge and down into a beautiful canyon
   c. Lake Mears - a man-made lake with grassy area nearby for frisbee, volleyball, picnic games
4. Lunches
   a. are packed in backpacks - picked up before you leave - make sure you have proper hiking groups and backpacks
   b. stop for lunch around 12 or 12:30
   c. spread out food cafeteria style
   d. set up trash liner
   e. pause for moment of silence, each takes one serving
   f. all trash (orange peels, mustard packages, milk cartoons) should be placed in the trash liner, check area when leaving
   g. after everyone is served, can go back for "seconds"
   h. carry all garbage back to camp site
   i. return extra food, packs, trash to proper area

5. Activities on picnic hikes
   a. it's a good idea to have some songs or games "up your sleeve" to enjoy for both long and short hikes
   b. volleyball, frisbee, and other equipment is available
   c. if the picnic hike is an extended trail hike, it's a good idea to teach all of your trail before stopping for lunch; be careful that you don't make lunch too late

D. Evening Activities

1. Night Hike
   a. arrange details with your unit leader; generally run from around 7:00 p.m. - 8:20 p.m.
   b. check schedule for appropriate evening
   c. return any equipment you use to your unit leader
   d. take along a flashlight and first aid kit for emergencies
   e. "sit upons" (old ponchos) are available for damp weather
   f. outline follows on the next page
2. Star study
   a. arrange details with your unit leader
   b. check schedule for appropriate evening
   c. star study varies but usually has one or more of the following:
      1. slide show
      2. stations for telescope, binoculars, constellations
      3. star legends
      4. cabin leader takes own cabin group for star walk
   d. take along a flashlight and first aid kit
   e. an outline for a star walk follows on page 128
   f. an outline for a night hike follows on page 127

NIGHT HIKE OUTLINE

Discuss Nocturnal vs. Diurnal.* Animals are specifically adapted for one or the other.

Discuss Predator/Prey relationships.

Types of:

- predators in the area (coyote, bobcat, owl, mountain lion)
- prey (mice, rabbits, pack rats, deer)
- other animals who are omnivorous and not part of a predator/prey relationship (bears, raccoons)

Adaptations

- nocturnal animals rely on their sense of smell and hearing
- sight differs because they depend on much less light
  - rod cells in eyes allow you to see black and white
  - cone cells allow you to see colors (humans)
  - nocturnal animals have predominantly more rod cells than humans because cone cells need light to function
- experiment with trying to see colors in the dark
- coloring camouflages animals
- the physical structure of animals is adapted for movement at night (i.e., owl feathers are specially adapted for silent flight)

Discuss the purpose of the night hike (to see nocturnal animals and to experience the forest at night.

Discuss what is necessary to see animals:

- silence (minimize voices, rustling jackets)
- eyes adapted to the dark (keep flashlights off)
- using all senses (be alert)

Animal Call:

- sounds like a wounded or dying rabbit
- will attract predators thinking they'll get an easy meal

Reassure students that there's no danger of anyone being hurt by an animal

Other Activities:

- sparking (use quartz, life savers)
- camouflage game (keep groups together, hide only 10 feet from road)
- flashlight games
- coyote calls and listen for answer (hands up to ears) - do near the camp to avoid disturbing other hiking groups
- review star study
- enjoyment of beauty and mystery of night time
- alone time (walk short distance back to cabin one by one)

End with a mini-campfire; maybe join another group and roast marshmallows and sing

* underlined words are concepts we're trying to teach

STAR STUDY

Objects that can bee seen from the Outdoor School site

1. FALL

Binoculars	Constellations
a. Andromeda - galaxy	a. Andromeda
b. Double stars in the handle of the Big Dipper	b. Big Dipper
c. Colors of stars - Vega (white), Albireo (white)	c. Pegasus
d. Milky Way galaxy	d. Summer Triangle - Cygnus, Lyra, Aquila, Cassiopeia
e. Double star cluster near Cassiopeia	e. Cassiopeia
f. Moon	f. Little Dipper
g. Planets	g. Draco
	h. Delphinus
	i. Cepheus

2. WINTER

Binoculars	Constellations
a. Pleiades	a. Pleiades
b. Planets	b. Orion
c. Great Nebula (found in Orion's sword)	c. Taurus' and dogs
d. Colors of stars - Capella (blue), Adlebaran (red)	d. Gemini
e. Moon	e. Cassiopeia
	f. Leo

3. SPRING

Binoculars	Constellations
a. Planets	a. Virgo
b. Moon	b. Leo
c. Colors of stars - Arcturus (red), Spica (blue)	c. Northern Crown, Corona
d. Double stars in the handle of the Big Dipper	d. Big Dipper
e. Coma Berenices - star cluster	e. Corvus, Crater
	f. Capricorn
	g. Hydra

IV. EFFECTIVE TEACHING TECHNIQUES FOR THE TRAIL

A. Introductions

1. Introduce yourself
2. Learn names of students in your group
3. Define rules - saves time and confusion later
   a. be considerate when instructor is talking (be quiet, stand still)
   b. stay behind instructor on the trail and with the group; don't stray
   c. other rules of camp (walk, no throwing, no walking sticks)
4. Let students know where they are going, when and what the major learnings will be
5. Be sure you have the necessary equipment and a first aid kit

B. On the Trail

1. Move quickly to the first stop, long introductions cause a lack of enthusiasm
2. Walk casually; keep group together; not strung out
3. Classroom teacher must be nearby and know where you are for he/she is responsible for the children
4. Stops
   a. wait for group to gather around before starting to talk so everyone can see and hear
   b. length of stops may vary, students will tire if too long; you can cover a concept in several stops if necessary
   c. space them (or kids lose interest)
   d. speak so all can hear (may have to walk to the back or middle of the group)
   e. be aware of the sun; don't have the students looking into it if possible
5. Encourage questions and discovery, only those involved with the learning will retain information
   a. don't get carried away with a "what is it" session
   b. get their ideas, try not to talk too much
   c. don't always give answers, allow students to figure things out for themselves
   d. relate things to their own experiences
   e. use senses to make it more meaningful; plan hands-on activities
6. Be ready for surprises
   a. shift attention to the squirrel that suddenly appears and come back to the water cycle later
   b. use an occurance to enhance the lesson and incorporate the event into your lesson
7. Cabin leader leads in a single file line (unless trail is wide)
   a. observe road safety (see cabin life section)
8. Approach your study trail as a story with many parts
   a. relate parts to one another
   b. use similarities and differences to reinforce facts
   c. use games, try creative techniques

C. Teach Appreciation

1. 5 senses activities, quiet time
2. litter
   a. pick it up. they'll model after you
   b. if they pick up litter dropped by others, it's unlikely they will litter themselves

3. Pick and collect only what's necessary
4. Enjoy a spectacular view, small flowers, other wonders
5. Stay on the trails, do not cut switchbacks or trample plants
6. Add your own personality (enthusiasm, quotes, extra research)

D. Conclusion

1. Play review game
2. Summarize trail and events; discuss discoveries and finds
   a. what did we learn
   b. what did we do
3. Leave them with an inspirational thought or message
   a. how can you use this information in your life
   b. a quote
   c. how or why is this trail important
4. End on a positive note

E. Questioning Techniques

1. Thoughtful questions will produce a variety of responses
2. For example:
   a. how do these plants differ from . . .?
   b. what evidence do you see of . . . .?
   c. compare the texture of these three leaves - describe them to your partner and to the group
   d. what characteristics would you look for to find an example of symbiosis?
   e. how can you tell if this creature is an insect?
   f. what could have caused this tree to fall?
   g. why do you think part of this hillside slipped into the canyon?
   h. if you were a _____ what would you (eat, need for survival, prey upon, etc.)?
   i. look for examples of ..... (tell your partner and report to the group in five minutes)
3. Avoid questions such as:
   a. what kind of tree is this (pointless questions - "so what")
   b. can you think of a bird that would live in this tree (non-question, i.e. "Yes, I can think of a bird")
4. Questions to stimulate thinking (Bloom's Taxonomy)
   a. knowledge - remembering, recall, no high-level thinking involved)
      1. define symbiosis
      2. what did your teacher say about ..... ?
      3. list the three adaptations of this plant
      4. who, what, where, when
   b. understanding - comprehension, tells in own words, interprets information, comparison
      1. explain the water cycle
      2. from the evidence, what do you think happened to this tree ?
      3. state in your own words .....
      4. what do these tracks mean ?
      5. if it rains, then what might happen here ?
      6. what reasons or evidence .....

C. Application - 80% of everything learned is lost if not applied within 24 hours., (key to retention), present information and students apply it to situations

d. analysis - challenging, dissecting, looking at parts compared to the whole
   1. what must you know for that to be true?
   2. how do you know that is a metamorphic rock?
   3. which parts of the legend were facts and which parts were fiction?
   4. does that make sense?
   5. what makes you think that's the answer?

e. synthesis - find new ways to look at situations, divergent thinking, creates solutions, an innovator
   1. can you develop a new way?
   2. make up . . . .
   3. if you were an animal in the chaparral, what adaptations would you have?
   4. what would you do if .....?
   5. how could you determine .....?
   6. how can we prove that ?

f. evaluation - judgement, take facts and draw conclusions, be able to tell why (can't be done unless you are able to master "a-e" first)
   1. for what reasons would you favor planting trees?
   2. what can you do with the information you learned on this trail?
   3. what can you do about conservation in your environment?
   4. why would you be in favor of .....?
   5. what type of energy would be the most practical for the U.S. in the near future?

F. Problems on Your Trail

1. Involve the student in hands-on activities
2. Have the student walk with you, hold your hand if necessary
3. Make student aware that this is his only opportunity all week to experience this trail, make the best use of his time and yours
4. If after working with a student you're still having problems:
   a. ask the classroom teacher to speak with the student and be sure to inform the acting principal of the problem
   b. consult with acting principal

V. CARE OF EQUIPMENT

A. As part of the Outdoor School staff, you will have the opportunity to use some expensive scientific tools as well as many other types of equipment.

1. Learn to use them properly so they will last
2. Treat them with care and make sure they are returned to the correct place, available for the next person to use

B. Types of Equipment

1. Trail equipment (for Riparian, Chaparral, Geology, Forest)
   a. is packed with an inventory card inside the pack
   b. count the equipment both before and after you use it
   c. pack the packs as requested (if not packed correctly - each may be too heavy, can't locate equipment, or may be damaged; i.e. goggles scratched)
   d. let equipment person know when something is missing or supply is low
2. Craft and free choice boxes
   a. boxes are pre-packed, stocked with all the items necessary to do an activity
   b. do not remove items from these boxes for other activites (so frustrating to find something missing when teaching an activity)
3. Recreation equipment
   a. volleyball and frisbee packs are available for picnic hikes
   b. board games, cards, books are available to check out for use in the cabins
4. Telescope
   a. is simple to use, but can get out of adjustment very quickly with improper use; learn to use it correctly
   b. can be used during the day with your cabin group to study the sun, San Bernardino Peak, etc. (do not look directly at the sun)
5. Binoculars
   a. check out by number on sign out sheet
   b. return to proper cases in time for others to use (for study, birdstalking, exploring hikes)
6. Books
   a. please check out by writing your name and book title on sign out sheet
   b. cross out name when returned
   c. replace book in proper order (see number and letter on side binding)
7. Canteens
   a. water from camp (not stream water - health problems)
   b. bird drinks to avoid germs
8. Equipment checked out to you
   a. jacket - can be machine washed and dryed
   b. first aid kit - take to nurse when refills are needed
9. Other
   a. see your acting principal to order special equipment not readily available

VI. OTHER PROGRAM ACTIVITIES

A. Campfire

1. Skits
   a. encourage all students to participate - make it fun, don't force students
   b. plan and practice during cabin free time
   c. always watch the skit before performance time, make sure it is in good taste, don't allow:
      1. rude language
      2. someone to be ridiculed or embarrassed
      3. fighting and rough-housing (gets "out of hand", people will get hurt)
      4. long, dragging, routine skits
      5. silly or dumb behavior
   d. encourage students to be clever and original
      1. make up skits with an environmental message or follow theme of campfire
      2. make props or simple costumes
      3. practice so they're comfortable with their parts
      4. be proud to show it to their teachers and friends
      5. try living history dramas
   e. teach students to speak in a loud, clear voice so everyone can hear, face audience when speaking
2. Expectations of cabin leaders when on duty:
   a. sits with students, helps get group quiet when necessary
   b. leads and participates in songs, stories, skits as directed by unit leader in charge
   c. helps organize students with skits so campfire can keep moving without long delays
   d. helps maintain mood of campfire as it moves from louder to quieter activities
   e. avoids standing at the back talking to other cabin leaders (we need you with the students)
   f. is enthusiastic and enjoys himself/herself

B. Square Dancing

1. Expectations of cabin leaders on duty
   a. helps demonstrate dances - uses good taste; is not rough or rowdy as students will model you
   b. helps form squares and stays with a square to guide them as the dances start (or gets a partner and joins a square)
   c. helps students settle down when necessary - takes iniative on helping
   d. takes students to the restroom when necessary (does not allow students to go by themselves (may cause cabin raids, lost kids, broken hearts)
   e. encourages feeling for fun and friendship, discourages boy/girl problems, silliness, hurt feelings
   f. allows students to select their own partners; avoids pulling students up or dragging them across the floor or matching them with someone; encourages students to dance by asking them to participate as a partner.
   g. helps create a quiet mood at the end with quiet songs or stories

C. Free Choice, Conservation and Crafts Activities

1. Activities that allow students to make choices and learn more about an aspect of the forest that they probably couldn't experience in the classroom
2. One or all of these may be scheduled during the week, they include:
   a. survival hike
   b. exploring hike
   c. nature photography
   d. basketweaving
   e. mini-forest
   f. leather craft
   g. campfire songs and stories
   h. sketching and watercolors
   i. tree planting
   j. trail maintenance
   k. wood splitting
   l. five senses walk
   m. birdstalking
   n. insect collecting
   o. campfire cooking
   p. new games
3. Cabin leaders on duty
   a. will select on activity in advance they would like to teach
   b. students will sign up for one activity
   c. activities will last about 1½ hours
   d. each cabin leader will have a group of approximatley 10-15 students to teach (by themselves)
   e. make sure to include hands-on activities, in-depth learning or skills in your subject area and fun
   f. wear a watch to make sure you finish on time (holds up entire camp when late)
   g. take first aid kit along on hikes
   h. activities must stay within camp boundaries unless you have a second, credentialed person with you
   i. learn safety rules, and take good care of equipment you use; teach students to do the same

D. Flag Ceremony

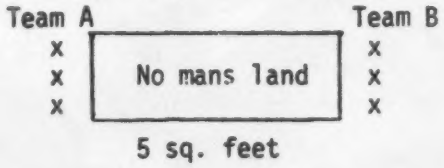
1. Flag ceremonies are listed on the weekly schedule, usually before breakfast and dinner
2. One cabin group will be assigned to the flag ceremony (see schedule)
3. All other groups will watch, practice respectful behavior
4. Cabin group in charge
   a. arrives 20 minutes early
   b. assigns parts to each person (flag box)
   c. practices ceremony
   d. cabin leader will:
      1. remind students to speak loudly and clearly, to be respectful
      2. help students during the ceremony if there's a problem
      3. dismiss group to the meal, flag people leave last
      4. return cards to flag box, keep items orderly
   e. start on time
5. Flag ceremony will be held outside unless there's inclement weather; then it will be held inside the dining hall

E. Rainy Day Trails

1. Be concerned for the students' health and safety, dress to keep dry and warm (hats, ponchos, waterproof shoes, jackets)
2. Do the trail introduction inside, go out when rain lets up, or for short time only at the end of the hike (so they can change and don't have to stay wet)
3. Plan to hike a shorter distance
4. Rainy day boxes and games are available for each trail, use them inside to review your trail
5. Take advantage of the rain and the conditions present to study the area
   a. observe the eroding power of rain
   b. smell and look at the forest after a rain
   c. discuss: the water cycle, the properties of water, where animals hide

F. Snowy Days

1. Be concerned about the health and safety of students; dress warm (hats, jackets, long underwear, extra socks, mittens)
2. Learn about snow by experiencing it
   a. smell it
   b. taste small amounts (clear top, small amount or get stomach aches)
   c. listen to it fall
   d. find tracks; observe the beauty of white trees
   e. catch snowflakes (use black gloves, felt and a hand lens to observe the snowflakes
   f. discuss and experience:
      1. how long you can hold a snowball, squeezing it hard
      2. how long a snowball will float
      3. the temperature of snow and air, depth of snow
      4. how animals find food
      5. how fast snow melts (use a cup, feel it and time it)
      6. how much snow makes 1" of water (use cup and melt it)
3. Plan to hike a shorter distance (it's hard to walk in snow). If it's really cold, start inside and return inside to review activities while warming up.
4. End your hike with snow activites (so you can go back and change to dry clothes)
   a. snowball fights
      1. set boundaries of court



      2. divide into 2 teams, describe rules
      3. make snowballs (build up ammunition) for 2 minutes
      4. countdown -- 3, 2, 1, throw
      5. aim below waist, not at head
      6. be careful not to throw ice or rocks in snowballs (people get hurt!)
      7. stop after 3 minutes, no more snowball throwing
      8. no free-for-alls (people get hurt)

b. target practice
    1. set up a target: tree, rock (15 pts., 10 pts., 5 pts.)
    2. each student makes one good snowball
    3. throw - count points
    4. have a contest between the students with the most points
    5. make sure no people are in the direction of the target

5. We may plan all-camp snow activities
    a. sliding on innertubes (need credentialed person present, no sliding in cabin groups - not fair and for insurance purposes)
    b. snow ball fights
    c. snow cones
    d. snow sculpture
    e. campfire to warm cold bodies and enjoy group singing
    f. target practice